

Florida Department of Environmental Protection

Memorandum

TO: Trina Vielhauer, Chief
Bureau of Air Regulation

THROUGH: Jeff Koerner, Administrator *JK*
Air Permitting North Program

FROM: Syed Arif *Syed Arif*

DATE: November 9, 2007

SUBJECT: Draft Air Permit No. 0470002-055-AC
White Springs Agricultural Chemicals, Inc. Suwannee River/Swift Creek Complex
BART Project

Attached for your review are the following items:

- Cover letter;
- Written Notice of Intent to Issue Permit;
- Public Notice of Intent to Issue Permit;
- Technical Evaluation and Preliminary Determination;
- Draft Permit with Appendices; and
- PE Certification.

The Technical Evaluation and Preliminary Determination provides a detailed description of the project, rule applicability, and emissions standards. The P.E. certification briefly summarizes the proposed project. I recommend your approval of the attached draft permit for this project.

Attachments



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

PROFESSIONAL ENGINEER CERTIFICATION STATEMENT

PERMITTEE

White Springs Agricultural Chemicals, Inc.
P.O. Box 300
White Springs, FL 32096

Draft Air Permit No. 0470002-055-AC
Suwannee River/Swift Creek Complex
BART Project
Hamilton County, Florida

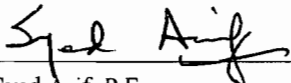
PROJECT DESCRIPTION

Project: On February 1, 2007, White Springs Agricultural Chemicals, Inc. submitted an application to satisfy the requirements of Best Available Retrofit Technology (BART) in Rule 62-296.340, Florida Administrative Code (F.A.C.) for the existing Suwannee River/Swift Creek Complex. The purpose of the BART regulation is to improve visibility in the Class I areas, which include six national parks and federal wildlife areas in and around Florida. The BART provisions apply to emissions units built between 1962 and 1977 at one of the 26 specified industrial categories that have the potential to emit more than 250 tons a year of visibility-impairing pollutants, which are defined as nitrogen oxides (NO_x), particulate matter (PM₁₀), and sulfur dioxide (SO₂). Many of these units previously have been exempt from pollution control requirements under the Clean Air Act.

The BART regulation requires a control technology review to establish a BART standard, which is an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by a BART-eligible source. The emission limitation must be established, on a case-by case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. In addition, air dispersion modeling analysis is conducted to evaluate the visibility improvement.

The existing facility is a phosphate rock processing plants, which is one of the 26 specified categories subject to regulation. The BART-eligible units at this facility include: EU001 - #2 Phosphate Rock Grinder, EU003 - 'A' Defluorinated Phosphate (DFP) Plant, EU004 - 'X' Train (Dical Process), EU008 - 'Y' Train - #1 Diammonium Phosphate (DAP) Plant, EU010 - #1 Monoammonium (MAP)/DAP Storage Building, EU015 - MAP/DAP Shipping and Screening Facility, EU021 - 'C' Sulfuric Acid Plant (SAP), EU022 - 'D' SAP, EU032 - 'Z' Train (#2 DAP), EU038 - 'B' DFP Plant, EU042 - DFP Feed Prep, EU044 - 'A' and 'B' DFP Coolers, EU054 - Molten Sulfur System, EU062 - DFP Silos, EU064 - Swift Creek Mine Rock Dryer, EU065 - Swift Creek Mine Silos. The Department of Environmental Protection (Department) reviewed the application and made a preliminary determination regarding the BART controls and emissions standards which are listed in the Technical Evaluation and Preliminary Determination issued concurrently with the draft air construction permit. The draft air construction permit establishes BART standards based on these control methods.

I HEREBY CERTIFY that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including, but not limited to, the electrical, mechanical, structural, hydrological, geological, and meteorological features).


Syed Arif, P.E.
Registration Number: 51861

11/9/2007
(Date)





Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

November 13, 2007

Mr. W.K. Thornton, General Manager
White Springs Agricultural Chemicals, Inc.
P.O. Box 300
White Springs, Florida 32096

Re: Draft Permit No. 0470002-055-AC
Suwannee River/Swift Creek Complex
BART Project

Dear Mr. Thornton:

On February 1, 2007, you submitted an application to satisfy the requirements of Best Available Retrofit Technology (BART) in Rule 62-296.340, Florida Administrative Code for the eligible units at the facility identified above. Enclosed are the following documents:

- The Technical Evaluation and Preliminary Determination summarizes the Permitting Authority's technical review of the application and provides the rationale for making the preliminary determination to issue a Draft Permit.
- The proposed Draft Permit includes the specific conditions that regulate the emissions units covered by the proposed project.
- The Written Notice of Intent to Issue Air Permit provides important information regarding: the Permitting Authority's intent to issue an air permit for the proposed project; the requirements for publishing a Public Notice of the Permitting Authority's intent to issue an air permit; the procedures for submitting comments on the Draft Permit; the process for filing a petition for an administrative hearing; and the availability of mediation.
- The Public Notice of Intent to Issue Air Permit is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project.

If you have any questions, please contact the Project Engineer, Syed Arif at 850/921-9528.

Sincerely,

Trina Vielhauer, Chief
Bureau of Air Regulation

Enclosures

TLV/sa

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

*In the Matter of an
Application for Air Permit by:*

White Springs Agricultural Chemicals, Inc.
P.O. Box 300
White Springs, FL 32096

Draft Permit No. 0470002-055-AC
Facility ID No. 0470002
Suwannee River/Swift Creek Complex
BART Project
Hamilton County, Florida

Authorized Representative:
W.K. Thornton, General Manager

Facility Location: The applicant, White Springs Agricultural Chemicals, Inc., operates the existing Suwannee River/Swift Creek Complex, which is located in Hamilton County at 15843 SE 78th Street, White Springs, Florida.

Project: On February 1, 2007, White Springs Agricultural Chemicals, Inc. submitted an application to satisfy the requirements of Best Available Retrofit Technology (BART) in Rule 62-296.340, Florida Administrative Code (F.A.C.) for the eligible units at the facility identified above. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters F.A.C. 62-4, 62-210, and 62-212. The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above. In addition, electronic copies of these documents are available on the following web site: <http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 30 days from the date of publication of the Public Notice. Written comments must be postmarked by the Permitting

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

Authority by close of business (5:00 p.m.) on or before the end of this 30-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.


Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief
Bureau of Air Regulation

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination, and the Draft Permit) was sent by electronic mail with received receipt requested before the close of business on 11/13/07 to the persons listed below.

W.K. Thornton, White Springs Agricultural Chemicals, Inc. (wkthornton@pcsphosphate.com)

C. Pults, White Springs Agricultural Chemicals, Inc. (cpults@pcsphosphate.com)

M. Lee, P.E., Koogler & Associates, Inc. (mlee@kooglerassociates.com)

C. Kirts, DEP-NED (christopher.kirts@dep.state.fl.us)

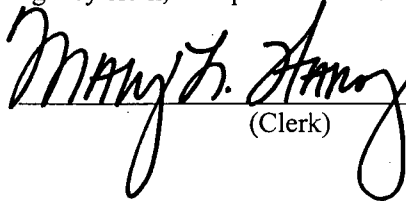
Katy Forney, EPA Region 4 (forney.kathleen@epa.gov)

Jim Little, EPA Region 4 (little.james@epa.gov)

Dee Morse, NPS (dee_morse@nps.gov)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.



(Clerk)

11/13/07

(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Division of Air Resource Management, Bureau of Air Regulation
Draft Air Construction Permit No. 0470002-055-AC
White Springs Agricultural Chemicals, Inc., Suwannee River/Swift Creek Chemical Complex
Hamilton County, Florida

Applicant: The applicant for this project is White Springs Agricultural Chemicals, Inc. The applicant's authorized representative and mailing address is: W.K. Thornton, General Manager, White Springs Agricultural Chemicals, Inc., P.O. Box 300, White Springs, Florida 32096.

Facility and Location: The applicant, White Springs Agricultural Chemicals, Inc., operates the existing Suwannee River/Swift Creek Complex, which is located in Hamilton County at 15843 SE 78th Street in White Springs, Florida. The applicant operates an existing phosphate complex, which processes phosphate rock to produce several products at the Suwannee River/Swift Creek Complex (two plants).

Project: On February 1, 2007, White Springs Agricultural Chemicals, Inc. submitted an application to satisfy the requirements of Best Available Retrofit Technology (BART) in Rule 62-296.340, Florida Administrative Code (F.A.C.) for the existing Suwannee River/Swift Creek Complex. The purpose of the BART regulation is to improve visibility in the Class I areas, which include six national parks and federal wildlife areas in and around Florida. The BART provisions apply to Emissions Units (EU) built between 1962 and 1977 at one of the 26 specified industrial categories that have the potential to emit more than 250 tons a year of visibility-impairing pollutants, which are defined as nitrogen oxides (NO_x), particulate matter (PM₁₀/PM_{2.5}), and sulfur dioxide (SO₂).

The BART regulation requires a control technology review to establish a BART standard, which is an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by a BART-eligible source. The emission limitation must be established, on a case-by case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

The BART-eligible units at this facility include: EU001 - #2 Phosphate Rock Grinder, EU003 - 'A' Defluorinated Phosphate (DFP) Plant, EU004 - 'X' Train (Dical Process), EU008 - 'Y' Train - #1 Diammonium Phosphate (DAP) Plant, EU010 - #1 Monoammonium (MAP)/DAP Storage Building, EU015 - MAP/DAP Shipping and Screening Facility, EU020 - 'B' Phosphoric Acid Plant, EU021 - 'C' Sulfuric Acid Plant (SAP), EU022 - 'D' SAP, EU032 - 'Z' Train (#2 DAP), EU038 - 'B' DFP Plant, EU042 - DFP Feed Prep, EU044 - 'A' and 'B' DFP Coolers, EU054 - Molten Sulfur System, EU062 - DFP Silos, EU064 - Swift Creek Mine Rock Dryer, EU065 - Swift Creek Mine Silos. The Department of Environmental Protection (Department) reviewed the application and makes a preliminary determination regarding the BART controls and emissions standards in the draft air construction permit. The Department has determined that the existing controls and techniques constitute BART for the eligible BART units at this facility. The draft air construction permit establishes the new BART emissions standards based on installed controls and tested emissions rates.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and F.A.C. Chapters 62-4, 62-210, and 62-212. The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the

(Public Notice to be Published in the Newspaper)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

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Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 30 days from the date of publication of the Public Notice. Written comments must be postmarked by the Permitting Authority by close of business (5:00 p.m.) on or before the end of this 30-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

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A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address and telephone number of the petitioner; the name address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination; (c) A statement of when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available for this proceeding.

(Public Notice to be Published in the Newspaper)

Harvey, Mary

From: Harvey, Mary
Sent: Tuesday, November 13, 2007 3:34 PM
To: 'W.K. Thornton, White Springs Agricultural Chemicals, Inc.'; 'C. Pults, White Springs Agricultural Chemicals, Inc.'; 'M. Lee, P.E., Koogler & Associates, Inc.'; Kirts, Christopher; 'Katy Forney, EPA Region 4'; 'Jim Little, EPA Region 4'; 'Dee Morse, NPS'
Cc: Arif, Syed; Adams, Patty; Gibson, Victoria
Subject: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT
Attachments: 0470002.055.AC.D_.pdf.zip

| Tracking: | Recipient | Delivery | Read |
|-----------|---|-------------------------------|--------------------------|
| | 'W.K. Thornton, White Springs Agricultural Chemicals, Inc.' | | |
| | 'C. Pults, White Springs Agricultural Chemicals, Inc.' | | |
| | 'M. Lee, P.E., Koogler & Associates, Inc.' | | |
| | Kirts, Christopher | Delivered: 11/13/2007 3:34 PM | |
| | 'Katy Forney, EPA Region 4' | | |
| | 'Jim Little, EPA Region 4' | | |
| | 'Dee Morse, NPS' | | |
| | Arif, Syed | | Read: 11/13/2007 3:34 PM |
| | Adams, Patty | Delivered: 11/13/2007 3:34 PM | Read: 11/13/2007 3:47 PM |
| | Gibson, Victoria | Delivered: 11/13/2007 3:34 PM | |

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site:
<http://www.adobe.com/products/acrobat/readstep.html>.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

11/14/2007

Harvey, Mary

From: Forney.Kathleen@epamail.epa.gov
Sent: Wednesday, November 14, 2007 8:34 AM
To: Harvey, Mary
Subject: Re: FW: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT

Thanks

Katy R. Forney
Air Permits Section
EPA - Region 4
61 Forsyth St., SW
Atlanta, GA 30024

Phone: 404-562-9130
Fax: 404-562-9019

"Harvey, Mary"
<Mary.Harvey@dep
.state.fl.us>

11/13/2007 03:36
PM

To
Kathleen Forney/R4/USEPA/US@EPA
cc

"Arif, Syed"
<Syed.Arif@dep.state.fl.us>,
"Adams, Patty"
<Patty.Adams@dep.state.fl.us>,
"Gibson, Victoria"
<Victoria.Gibson@dep.state.fl.us>
Subject
FW: WHITE SPRINGS AGRICULTURAL
CHEMICALS, INC.-SUWANNEE RIVER -
FACILITY #0470002-055-AC-DRAFT

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on this link to the DEP Customer Survey. Thank you in advance for completing the survey.

From: Harvey, Mary
Sent: Tuesday, November 13, 2007 3:34 PM
To: 'W.K. Thornton, White Springs Agricultural Chemicals, Inc.'; 'C. Pults, White Springs Agricultural Chemicals, Inc.'; 'M. Lee, P.E., Koogler & Associates, Inc.'; Kirts, Christopher; 'Katy Forney, EPA Region 4'; 'Jim Little, EPA Region 4'; 'Dee Morse, NPS'
Cc: Arif, Syed; Adams, Patty; Gibson, Victoria
Subject: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY # 0470002-055-AC-DRAFT

Harvey, Mary

From: wkthornton@pcsphosphate.com
Sent: Tuesday, November 13, 2007 4:20 PM
To: Harvey, Mary
Cc: sPosey@pcsphosphate.com
Subject: Re: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT
Attachments: 0470002.055.AC.D_pdf.zip

I am in receipt of the documents.
W.K. Thornton

"Harvey, Mary" <Mary.Harvey@dep.state.fl.us>

11/13/07 03:34 PM

To "W.K. Thornton, White Springs Agricultural Chemicals, Inc." <wkthornton@pcsphosphate.com>, "C. Pults, White Springs Agricultural Chemicals, Inc." <cpults@pcsphosphate.com>, "M. Lee, P.E., Koogler & Associates, Inc." <mlee@kooglerassociates.com>, "Kirts, Christopher" <Christopher.Kirts@dep.state.fl.us>, "Katy Forney, EPA Region 4" <forney.kathleen@epa.gov>, "Jim Little, EPA Region 4" <little.james@epa.gov>, "Dee Morse, NPS" <dee_morse@nps.gov>
cc "Arif, Syed" <Syed.Arif@dep.state.fl.us>, "Adams, Patty" <Patty.Adams@dep.state.fl.us>, "Gibson, Victoria" <Victoria.Gibson@dep.state.fl.us>

Subject WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site:
<http://www.adobe.com/products/acrobat/readstep.html>.

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11/14/2007

Harvey, Mary

From: cPults@pcsphosphate.com
Sent: Tuesday, November 13, 2007 4:17 PM
To: Harvey, Mary
Subject: Re: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY
#0470002-055-AC-DRAFT

got it.
charlie

Harvey, Mary

From: Dee_Morse@nps.gov
Sent: Tuesday, November 13, 2007 3:54 PM
To: Harvey, Mary
Subject: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #
0470002-055-AC-DRAFT

Return Receipt

Your document: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER -
FACILITY #0470002-055-AC-DRAFT

was received
by: Dee Morse/DENVER/NPS

at: 11/13/2007 01:53:40 PM

Harvey, Mary

From: Adams, Patty
To: Harvey, Mary
Sent: Tuesday, November 13, 2007 3:47 PM
Subject: Read: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT

Your message

To: 'W.K. Thornton, White Springs Agricultural Chemicals, Inc.'; 'C. Pults, White Springs Agricultural Chemicals, Inc.'; 'M. Lee, P.E., Koogler & Associates, Inc.'; Kirts, Christopher; 'Katy Forney, EPA Region 4'; 'Jim Little, EPA Region 4'; 'Dee Morse, NPS'
Cc: Arif, Syed; Adams, Patty; Gibson, Victoria
Subject: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT
Sent: 11/13/2007 3:34 PM

was read on 11/13/2007 3:47 PM.

Harvey, Mary

From: Arif, Syed
To: Harvey, Mary
Sent: Tuesday, November 13, 2007 3:37 PM
Subject: Read: FW: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT

Your message

To: 'Katy Forney, EPA Region 4'
Cc: Arif, Syed; Adams, Patty; Gibson, Victoria
Subject: FW: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT
Sent: 11/13/2007 3:37 PM

was read on 11/13/2007 3:37 PM.

Harvey, Mary

From: Arif, Syed
To: Harvey, Mary
Sent: Tuesday, November 13, 2007 3:34 PM
Subject: Read: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT

Your message

To: 'W.K. Thornton, White Springs Agricultural Chemicals, Inc.'; 'C. Pults, White Springs Agricultural Chemicals, Inc.'; 'M. Lee, P.E., Koogler & Associates, Inc.'; Kirts, Christopher; 'Katy Forney, EPA Region 4'; 'Jim Little, EPA Region 4'; 'Dee Morse, NPS'
Cc: Arif, Syed; Adams, Patty; Gibson, Victoria
Subject: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT
Sent: 11/13/2007 3:34 PM

was read on 11/13/2007 3:34 PM.

Harvey, Mary

From: Kirts, Christopher
To: Harvey, Mary
Sent: Monday, November 19, 2007 10:06 AM
Subject: Read: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT

Your message

To: 'W.K. Thornton, White Springs Agricultural Chemicals, Inc.'; 'C. Pults, White Springs Agricultural Chemicals, Inc.'; 'M. Lee, P.E., Koogler & Associates, Inc.'; Kirts, Christopher; 'Katy Forney, EPA Region 4'; 'Jim Little, EPA Region 4'; 'Dee Morse, NPS'
Cc: Arif, Syed; Adams, Patty; Gibson, Victoria
Subject: WHITE SPRINGS AGRICULTURAL CHEMICALS, INC.-SUWANNEE RIVER - FACILITY #0470002-055-AC-DRAFT
Sent: 11/13/2007 3:34 PM

was read on 11/19/2007 10:06 AM.

**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

PROJECT

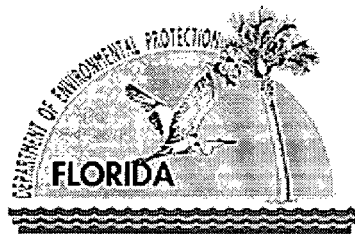
Draft Permit No. 0470002-055-AC
Best Available Retrofit Technology (BART)
White Springs Agricultural Chemicals, Inc.
Hamilton County, Florida

APPLICANT

White Springs Agricultural Chemicals, Inc.
P.O. Box 300
White Springs, Florida 32096

PERMITTING AUTHORITY

Air Permitting North Program
Bureau of Air Regulation
Division of Air Resource Management
Florida Department of Environmental Protection



November 9, 2007

1. GENERAL PROJECT INFORMATION

Facility Description and Location

The applicant, White Springs Agricultural Chemicals, Inc., operates an existing phosphate complex, which processes phosphate rock to produce several products at the Suwannee River/Swift Creek Complex (two plants). The facility consists of one rock grinder, two phosphoric acid plants, two defluorinated phosphate (DFP) plants, one dical process, two diammonium phosphate (DAP) plants, one monoammonium (MAP)/DAP storage building, one MAP/DAP screen/shipping building, four sulfuric acid plants (SAP), two phosphoric acid filters, four superphosphoric acid plants, one green superphosphoric acid plant, the Swift Creek Mine rock dryer, and one acid clarification plant. The facility also has storage silos associated with the Swift Creek Mine and the DFP plant. The sulfuric acid is produced on-site by burning elemental sulfur, converting the resulting sulfur dioxide to sulfur trioxide, and absorbing it into a recirculating sulfuric acid solution. Phosphoric acid is made by acidulation of phosphate rock with sulfuric acid. Waste gypsum is produced and stacked. The phosphoric acid is reacted with ammonia to make MAP and DAP. The phosphoric acid is reacted with limestone and other raw materials to make animal feed ingredients.

The Standard Industrial Classification (SIC) code for this type of plant is SIC No. 2874. The facility is located at 15843 SE 78th Street, White Springs, Hamilton County. The project site is located about 25 kilometers from the Okefenokee National Wilderness Area, a Class I Area. The UTM coordinates of this facility are Zone 17; 328.3 km E; 3368.8 km N.

Regulatory Categories

This project is subject to the applicable environmental laws in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection (Department) to establish rules regarding air quality in the Florida Administrative Code (F.A.C.). The facility is classified according to the following major regulatory categories.

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source pursuant to Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility operates units subject to Rule 62-296.340 (BART), F.A.C., which requires a determination of the Best Available Retrofit Technology for each BART-eligible source as defined in 40 CFR 51.301.

Project Description

White Springs Agricultural Chemicals, Inc. submitted an application to satisfy the requirements of Rule 62-296.340 (BART), F.A.C., which addresses the following BART-eligible emissions units (EU).

| EU No. | Emission Unit Description |
|--------|---|
| 001 | # 2 Phosphate Rock Grinder |
| 003 | "A" DFP Plant |
| 004 | "X" Train (Dical Process) |
| 008 | "Y" Train - #1 DAP Plant |
| 010 | #1 MAP/DAP - Storage Building |
| 015 | MAP/DAP Shipping and Screening Facility |
| 021 | "C" SAP |

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| EU No. | Emission Unit Description |
|--------|-----------------------------|
| 022 | "D" SAP |
| 032 | "Z" Train - #2 DAP Plant |
| 038 | "B" DFP Plant |
| 042 | DFP Feed Prep |
| 044 | "A" and "B" DFP Coolers |
| 054 | Molten Sulfur System |
| 062 | DFP Silos |
| 064 | Swift Creek Mine Rock Dryer |
| 065 | Swift Creek Mine Silos |

This Technical Evaluation and Preliminary Determination details the project, provides the top-down BART analysis, and identifies the BART determinations.

Processing Schedule

- 02/01/07: Department received the BART application for an air pollution construction permit.
- 02/13/07: Department issued 1st Incompleteness letter.
- 05/01/07: Applicant requested additional 60 days to respond to Department's 1st Incompleteness letter.
- 07/03/07: Department received response to the 1st Incompleteness letter.
- 07/26/07: Department issued 2nd Incompleteness letter.
- 08/16/07: Department received response to the 2nd Incompleteness letter; application complete.

2. APPLICABLE BART REGULATIONS

Regulatory Authority

This project is subject to the applicable regulatory requirements in the following Chapters of the F.A.C.: 62-4 (Permitting Requirements); 62-204 (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference); 62-210 (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms); 62-212 (Preconstruction Review, PSD Review and BACT, and Non-attainment Area Review and LAER); 62-296 (Emission Limiting Standards); and 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures). It is also subject to the applicable provisions in Title 40 of the Code of Federal Regulations (CFR) as adopted in Chapter 62-204 and 62-296, F.A.C.

Specifically, this project is subject to Rule 62-296.340 (BART), F.A.C. , which requires a BART determination for each BART-eligible source as defined in 40 CFR 51.301. The state rule implements the federal provisions of Appendix Y in 40 CFR Part 51, "Guidelines for BART Determinations Under the Regional Haze Rule". In accordance with Appendix Y in 40 CFR 51, the affected visibility-impairing pollutants include the following: nitrogen oxides (NO_x), particulate matter (PM) and sulfur dioxide (SO₂).

With respect to particulate emissions, Rule 62-210.200, F.A.C. defines PM as, "... all finely divided solid or liquid material, other than uncombined water, emitted to the atmosphere as measured by applicable reference methods, or an equivalent or alternative method ..." Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers is defined as PM₁₀ and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers is defined as PM_{2.5}. Emissions of PM, PM₁₀ and PM_{2.5} are all regulated pollutants. For the existing emissions units and air pollution control equipment, the control strategy

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specified in the BART determinations directly reduces PM emissions, which serves as a surrogate to also reduce PM₁₀ and PM_{2.5} emissions.

BART Definition

Pursuant to 40 CFR 51.301, *Best Available Retrofit Technology (BART)* means, "... an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by ... [a BART-eligible source]. The emission limitation must be established, on a case-by case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology." In accordance with Rule 62-296.340(3), F.A.C., the Department shall determine BART for each affected source in an air construction permit.

BART Analysis Procedure

There are five basic steps in the case-by-case BART analysis:

- Step 1. Identify all available retrofit control technologies. A comprehensive list of available technologies for analysis must be identified that includes the most stringent option and a reasonable set of available options. It is not necessary to list all permutations of available control levels that exist for a given technology. The list is complete if it includes the maximum level of control each technology is capable of achieving.
- Step 2. Eliminate technically infeasible options. Control technologies are technically feasible if either (1) they have been installed and operated successfully for the type of source under review under similar conditions, or (2) the technology could be applied to the source under review. "Availability" and "applicability" are two key concepts in determining whether a technology could be applied. A technology is considered "available" if the source owner may obtain it through commercial channels, or it is otherwise available within the common sense meaning of the term. An available technology is "applicable" if it can reasonably be installed and operated on the source type under consideration. A technology that is available and applicable is technically feasible.
- Step 3. Evaluate control effectiveness of remaining control technologies. There are two key issues in this process, including (1) expressing the degree of control in consistent terms to ensure an "apples-to-apples" comparison of emissions performance levels among options, and (2) giving appropriate treatment and consideration of control techniques that can operate over a wide range of emission performance levels.
- Step 4. Evaluate the impacts and document the results. The evaluation will consider the costs of compliance, energy impacts, non-air quality environmental impacts, and remaining useful life.
- Step 5. Evaluate visibility impacts. Use CALPUFF or other appropriate dispersion model to determine the visibility improvement expected at a Class I area from the potential BART control technology applied to the source. Note that if the most stringent BART control option available is selected, it is not necessary to conduct an air quality modeling analysis for the purpose of determining its visibility impacts.

BART Determination: In making a final BART determination, the following will be considered: (1) technically feasible options; (2) the average and incremental costs of each option; (3) the energy and non-air quality environmental impacts of each option; (4) the remaining useful life; and (5) the modeled visibility impacts. A justification for selecting a technology as the "best" level of control must be provided and include an explanation of these factors that led to the BART determination. When a BART determination is made for two regulated pollutants on the same source, if the result is two different BART technologies that do not work well together, it may be reasonable to substitute a different technology or combination of technologies.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Revised BART-Eligible Source List

The Department previously identified all BART-eligible sources through a series of notifications, workshops, and rule making efforts. To be considered BART eligible, a unit must have been constructed prior to August 7, 1977. During the processing of this application, the applicant provided additional supporting documentation that some of the previously identified BART-eligible emissions units were constructed after this deadline. Documentation included permit applications, correspondence, aerial photographs, etc. The following emissions units were removed from the BART-eligible source list for this facility.

Emissions Units Removed from the BART-Eligible Source List for White Springs Agricultural Chemicals, Inc.

| EU No. | Emission Unit Description |
|--------|--|
| 020 | 'B' Phosphoric Acid Plant: This plant emits fluoride, which is controlled by two packed wet scrubbers. The plant is not a source of nitrogen oxides, particulate matter or sulfur dioxide emissions. Therefore, this plant should have been exempted from BART review. |
| 034 | South Phosphoric Acid Filters: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 035 | North Phosphoric Acid Filters: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 036 | "A" and "B" Superphosphoric Acid Plants: This plant was constructed in 1978 and is not a BART-eligible source by definition. |
| 039 | "C" Auxiliary Boiler: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 040 | "D" Auxiliary Boiler: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 066 | "E" SAP: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 067 | "F" SAP: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 068 | "E" Auxiliary Boiler: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 069 | "D" Phosphoric Acid Plant: This plant was constructed in 1978 and is not a BART-eligible source by definition. |
| 070 | "C" and "D" Superphosphoric Acid Plants: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 071 | Acid Clarification Plant: This plant was constructed in 1979 and is not a BART-eligible source by definition. |
| 072 | Molten Sulfur System for "E" and "F" Sulfuric Acid Plants: This plant was constructed in 1979 and is not a BART-eligible source by definition. |

Summary of Applicant's Initial Modeling Analysis

The CALPUFF model (Version 5.756) was used to predict the maximum visibility impairment at four PSD Class I areas located within 300 km of the White Springs Agricultural Chemicals facility. The nearest PSD Class I area is the Okefenokee National Wilderness Area (NWA), which is located approximately 25 km from the facility at the closest point. The other three Class I areas are: the St. Marks NWA, which is located approximately 142 km from the facility; the Wolf Island NWA, which is located approximately 172 km from the facility; and the Chassahowitzka NWA, which is located approximately 202 km from the facility. The CALPUFF modeling analysis followed the Visibility Improvement State and Tribal Association of the Southeast (VISTAS) common protocol, version 3.2. The Department provided the applicant with 4-km "CALPUFF-ready" CALMET meteorological data for the period 2001-2003. Class I receptor locations were obtained from the National Park Service (NPS) and a Lambert Conformal Conic (LCC) coordinate system was used.

For the BART-eligible sources, the PM/PM₁₀, SO₂, H₂SO₄ and NO_x emission rates were determined from either stack test data or from proposed permit limits to reflect the maximum 24-hour average normal operation for the most recent 3 to 5 years. Emission rates of SO₂, H₂SO₄ and NO_x were input directly into the CALPUFF model

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while the six particulate species in specific size categories were modeled as a unit emission rate of 1 gram/second and then scaled for each source by using the POSTUTIL program. CALPOST method 6 was used to compute the extinction change (visibility impairment) in deciviews (dv) consistent with procedures outlined in the VISTAS modeling protocol.

Based on the 24-hour visibility impairment values for 2001 to 2003, the 8th highest (98th percentile) and the 22nd highest values were determined. The Class I area with the highest predicted impacts is the Okefenokee NWA, which is the nearest to the facility. The maximum predicted impact is 3.065 dv. The 8th highest visibility impairment value for each of the three years is over the comparison threshold of 0.50 dv. The 22nd highest impairment is also over this value. In addition, there are 87, 93 and 91 days (2001 to 2003) predicted to have visibility impairment over 0.5 dv. These impacts may be higher because the applicant underestimated maximum SO₂ emission rates for the two BART-eligible sulfuric acid plants. The applicant conducted one set of CALPUFF modeling runs and did not compare pre-control with post-control permit limits.

3. BART ANALYSIS FOR PARTICULATE-ONLY EMISSIONS UNITS

This section provides the control technology review for BART-eligible emissions units that only emit particulate matter. All of these emissions units at the Suwannee River/Swift Creek Complex have existing control equipment. Many of these types of controls have been identified as the "top control option" for similar units within this industry, which satisfies Steps 1 through 4 in the BART analysis. In addition, it is not necessary to determine the visibility impacts if the top control is selected as BART.

Baghouse Controls

Baghouses use fabric materials to mechanically filter out particulate from an exhaust stream. These devices are capable of control efficiencies greater than 99.9%. As discussed in EPA's Air Pollution Control Technology Fact Sheet for Fabric Filters (EPA-452/F-03-025), "... Well-designed and operated baghouses have been shown to be capable of reducing overall particulate emissions to less than 0.05 grams/m³ (0.010 grains/ft³), and in a number of cases, to as low as 0.002 to 0.011 grams/m³ (0.001 to 0.005 grains/ft³)." With regard to controlling emissions of particulate matter, baghouses are generally considered the top controls along with electrostatic precipitators. Therefore, Steps 1 through 4 of the BART analysis are satisfied and it is not necessary to determine the visibility impacts.

#2 Phosphate Rock Grinder (EU-001)

The #2 phosphate rock grinder has a maximum 1-hour capacity of 45 tons/hour of rock. Emissions of particulate matter from this unit are currently controlled by a baghouse. From the original air construction permit and Rule 62-297.620, F.A.C., the current emissions standards are 22.03 lb/hour (96.5 tons per year) and less than 5% opacity from the baghouse exhaust. The initial test in 1976 showed actual emissions of 0.16 lb/hour based on the installed control equipment and the plant accepted a 5% opacity limit in lieu of annual stack testing. Based on the test data and unlimited operation (8760 hours per year), actual annual emissions are estimated to be 1.3 tons/year from the rock grinder. The baghouse is recognized as a top control option for controlling particulate matter. Therefore, the Department establishes the following BART determinations:

Visible emissions from the baghouse exhaust shall not exceed 5% opacity as determined by EPA Method 9.

Bags in the baghouse control system shall be selected based on a design outlet specification of 0.01 grains per actual cubic feet of exhaust.

Compliance shall be demonstrated by conducting annual visible emissions tests and maintaining records of the vendor data sheets demonstrating compliance with the baghouse specification. At a maximum volumetric flow rate of 5533 acfm, the potential emissions would be reduced from 96.5 to 2.1 tons/year.

X-Train Dical Process (EU-004)

In the X-Train dical process, limestone reacts with phosphoric acid in a pug mill. The resulting slurry is then

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dried in a direct contact rotary dryer fired with natural gas or fuel oil. The rotary dryer in the X-Train is controlled by a system of wet venturi and cyclonic scrubbers, which is discussed in a subsequent section. The dried solids are then screened to remove on-size product. The product size material is conveyed to storage. The over-sized and under-sized materials are crushed and recirculated to the pug mill. The following table summarizes the particulate matter emissions, controls and limits for each emissions point.

Summary of Emissions Points and Existing PM Limits for the X-Train Dical Process (EU-004)^a

| EU-004 EP No. | Description | Controls | PM Emissions ^b | | Current Standards |
|------------------|-------------------|----------|---------------------------|-----------|-------------------|
| | | | lb/hour | tons/year | |
| 02 | Dedust Bin | Baghouse | 3.2 | 11.6 | 5% opacity |
| 03 | Shipping Area | Baghouse | 2.3 | 8.4 | 5% opacity |
| 04 | Limestone Silo | Baghouse | 0.77 | 2.8 | 5% opacity |
| 05 | Reclaim Bin | Baghouse | 0.77 | 2.8 | 5% opacity |
| 06 | Material Handling | Baghouse | 5.1 | 18.0 | 5% opacity |

^a This area also includes the X-Train with wet venturi and cyclonic scrubbers (EP-01), which is reviewed later in Section 4 with other combustion sources.

^b The potential PM emissions rates are based on Permit No. 0470002-039-AC.

The baghouse is recognized as a top control option for controlling particulate matter. Therefore, the Department establishes the following BART determinations:

Visible emissions from the baghouse exhaust shall not exceed 5% opacity as determined by EPA Method 9.

Bags in the baghouse control system shall be selected based on a design outlet specification of 0.01 grains per actual cubic feet of exhaust.

Compliance shall be demonstrated by conducting annual visible emissions tests and maintaining records of the vendor data sheets demonstrating compliance with the baghouse specification.

DFP Feed Prep (EU-042)

The DFP Feed Prep consists of: the feed prep area where the limestone, phosphate rock and other ingredients are mixed; the soda ash storage and handling system; and a limestone handling system. The soda ash system consists of a pneumatic transfer system that conveys soda ash from a vacuum railcar unloading hopper to a 330 ton storage silo. From this silo, soda ash is then transferred to a 20 ton soda ash bin/day tank. The limestone handling system consists of unloading limestone via truck into a 50 ton storage silo to a 3 ton limestone surge bin. These activities include the following emissions points (EP) and associated controls.

Summary of Emissions Points and Existing PM Limits for DFP Feed Prep (EU-042)*

| EU-042 EP No. | Description | Controls | Hours/Year | PM Emissions PTE, tons/year | Current Standards |
|------------------|---------------|------------|------------|--------------------------------|-----------------------------|
| 01 | Rock Bin | Baghouse | 8760 | < 1 | 5% opacity |
| 02 | Miscellaneous | Baghouse | 8760 | < 1 | 5% opacity |
| 03 | Lime Silo | Baghouse | 8760 | 0.44 | 0.10 lb/hour and 5% opacity |
| 04 | Lime Bin | Bin Filter | 8760 | 0.44 | 0.10 lb/hour and 5% opacity |
| 06 | Soda Ash Silo | Baghouse | 1800 | 0.23 | 0.25 lb/hour and 5% opacity |
| 07 | Soda Ash Bin | Bin Filter | 2700 | 0.027 | 0.02 lb/hour and 5% opacity |

* The DFP Feed Prep also includes a dryer with wet scrubber (EP-05) that is reviewed later in Section 4 with

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other combustion sources.

Although PM emissions standards are specified for EU-003, EU-004, EU-006 and EU-007, the plant has accepted a 5% opacity limit to avoid annual stack testing. As shown, the overall emissions from these activities are relatively small based on the existing controls. The baghouse is recognized as a top control option for controlling particulate matter. Therefore, the Department establishes the following BART determination:

Visible emissions from the baghouse exhaust shall not exceed 5% opacity as determined by EPA Method 9.

Bags in the baghouse control system shall be selected based on a design outlet specification of 0.01 grains per actual cubic feet of exhaust.

Compliance shall be demonstrated by conducting annual visible emissions tests and maintaining records of the vendor data sheets demonstrating compliance with the baghouse specification.

DFP Product Silos (EU-062)

Emissions of particulate matter from the DFP Product Silos are controlled by five baghouses at the following emissions points: product sizing/crushing (EP-14); and silo A, silo B, silo C and the shipping operations (EP-16). The total potential emissions of particulate matter from this emissions unit are 3.75 tons per year. The current emissions standard for all points is a limit of 5% opacity on the baghouse exhaust. The baghouse is recognized as a top control option for controlling particulate matter. Therefore, the Department establishes the following BART determinations:

Visible emissions from the baghouse exhaust shall not exceed 5% opacity as determined by EPA Method 9.

Bags in the baghouse control system shall be selected based on a design outlet specification of 0.01 grains per actual cubic feet of exhaust.

Compliance shall be demonstrated by conducting annual visible emissions tests and maintaining records of the vendor data sheets demonstrating compliance with the baghouse specification.

Wet Control Equipment for Particulate Matter

No. 1 Storage/Shipping Building (EU-010) and MAP/DAP Shipping Facility (EU-015)

Emissions of particulate matter are generated by the screening, handling and storage of products in the No. 1 Storage/Shipping Building and the MAP/DAP Shipping Facility. Each emissions unit is controlled by a wet scrubber due to the hygroscopic nature of the products (Monocal, Dical, DFP, DAP and MAP). These products absorb moisture and will plug the fabric materials used in a baghouse. Consequently, wet scrubbing is the appropriate control technology for these activities. The estimated control efficiency for the existing wet scrubbers is greater than 95%. The following table summarizes the emissions and controls for these units.

Summary of Current PM Limits for EU-010 and EU-015

| EU No. | Controls | Hours/Year | PM Emissions tons/year | Current Standards |
|--------|-----------------------------------|------------|------------------------|------------------------------|
| 010 | wet scrubber | 8760 | 158.42 | 36.17 lb/hour and 5% opacity |
| 015 | cyclone with wet venturi scrubber | 8760 | 177.00 | 40.41 lb/hour and 5% opacity |

The above emissions limits are very high and based on regulation by the process weight table in Rule 62-296.320, F.A.C. However, annual testing is conducted to demonstrate compliance. The following table summarizes actual particulate matter emissions from these units based on recent stack test data.

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Summary of PM Test Data for EU-010 and 015

| Date | EU-010 | Date | EU-015 |
|------------|---------|------------|---------|
| | lb/hour | | lb/hour |
| 9/21/1978 | 2.4 | 9/24/1976 | 0.29 |
| 4/26/1979 | 5.96 | 9/26/1980 | 1.48 |
| 1/15/1980 | 9.3 | 10/18/1984 | 0.3 |
| 5/15/1980 | 9 | 8/20/1987 | 0.52 |
| 6/26/1985 | 4.88 | 9/28/1988 | 0.59 |
| 8/19/1987 | 10.39 | 12/6/1989 | 1.08 |
| 10/12/1988 | 4.11 | 9/6/1990 | 1.16 |
| 10/19/1989 | 1.73 | 11/20/1991 | 1.15 |
| 9/28/1990 | 1.43 | 8/26/1992 | 0.24 |
| 11/7/1991 | 6.18 | 7/27/1995 | 1.28 |
| 11/12/1992 | 1.7 | 6/28/1996 | 1.15 |
| 2/15/1995 | 1.37 | 9/13/2000 | 0.27 |
| 6/28/1996 | 1.15 | 2/11/2005 | 0.6 |
| 7/18/1997 | 1.48 | | |
| 12/9/1998 | 0.44 | | |
| 12/9/1999 | 0.25 | | |
| 8/21/2000 | 0.45 | | |
| 9/26/2002 | 1.09 | | |
| 10/8/2003 | 0.85 | | |
| 11/10/2004 | 0.24 | | |
| 12/7/2005 | 0.35 | | |
| 3/29/2006 | 0.41 | | |
| 4/4/2007 | 0.38 | | |

A statistical analysis using the available data indicates the following emissions rates based on a 99% confidence interval.

No. 1 Storage/Shipping Building (EU-010): 4.7 lb/hour (equivalent to 20.6 tons/year)

MAP/DAP Shipping Facility (EU-015): 1.2 lb/hour (equivalent to 5.3 tons/year)

As shown, actual emissions are much lower than the permitted emissions limits and reflect good control by the installed wet scrubbers. Therefore, the Department will establish the above emissions rates as the BART determinations for these units. Potential emissions of particulate matter will be reduced: from 158 to 20.6 tons per year for the No. 1 Storage/Shipping Building (EU-010); and from 177 to 5.3 tons per year for the MAP/DAP Shipping Facility (EU-015). Based on these new standards, it will be necessary to develop new excursion levels for the scrubber parameters in the Compliance Assurance Monitoring (CAM) plan.

'A' and 'B' DFP Coolers (EU No. 044)

Emissions of particulate matter from the 'A' and 'B' DFP Coolers are controlled by a cyclonic wet scrubber that exhausts through a common stack. For a wet gas stream, baghouse is not a feasible control technology because

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of plugging and blinding of the fabric bags. The current emissions limits for particulate matter are 25.04 lb/hr and 105.17 tons per year. Annual testing is conducted to demonstrate compliance with the standards. The following table summarizes actual particulate matter emissions from these units based on recent stack test data.

Summary of PM Test Data for EU-044

| Date | Tested Emissions lb/hour (EU-044) |
|------------|--------------------------------------|
| 2/13/1985 | 5.82 |
| 2/26/1986 | 8.76 |
| 2/25/1987 | 8.09 |
| 12/16/1987 | 2.79 |
| 2/23/1989 | 16.457* |
| 3/10/1989 | 8.054 |
| 2/8/1990 | 5.114 |
| 8/14/1991 | 14.56 |
| 2/12/1992 | 8.28 |
| 4/7/1993 | 7.495 |
| 3/31/1994 | 5.94 |
| 3/8/1995 | 8.79 |
| 3/8/1996 | 9.65 |
| 3/7/1997 | 8.65 |
| 3/25/1998 | 7.33 |
| 3/29/2000 | 10.39 |
| 3/158/2001 | 12.77 |
| 4/3/2002 | 8.99 |
| 2/26/2003 | 16.11 |
| 4/28/2004 | 14.15 |
| 3/3/2005 | 20.9 |

* This test result appeared high and apparently failed. It was not included in the statistical analysis.

A statistical analysis using the available data indicates an emissions rate of 12.3 lb/hour (equivalent to 53.9 tons/year) based on a 99% confidence interval. As shown, actual emissions are much lower than the permitted emissions limits and reflect good control by the installed wet scrubbers. Therefore, the Department will establish this emissions rate as the BART determination for the 'A' and 'B' DFP Coolers. Potential emissions of particulate matter will be reduced from 105 to 53.9 tons per year. Based on the new standard, it will be necessary to develop new excursion levels for the scrubber parameters in the CAM plan.

Swift Creek Mine Silos (EU No. 065)

The Swift Creek Mine silos store raw materials. A wet scrubber is used to control particulate matter emissions from the silos and conveyor system. The existing wet scrubber is the appropriate control technology for the nature of the material handled and the specific process design used to capture the raw material in the scrubber water. The permitted PM emissions limit is 46.40 lb/hour (equivalent to 203.20 tons/year). This emissions limit is based on regulation by the process weight table in Rule 62-296.320, F.A.C. However, annual testing is

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conducted to demonstrate compliance. The following table summarizes actual particulate matter emissions from these units based on recent stack test data.

Summary of PM Test Data for EU-065

| Date | Tested Emissions lb/hour (EU-065) |
|-----------|--------------------------------------|
| 7/1/1999 | 0.97 |
| 6/1/2000 | 0.67 |
| 5/30/2001 | 1.38 |
| 6/11/2002 | 2.13 |
| 5/14/2003 | 4.67 |
| 7/7/2004 | 3.08 |
| 2/9/2005 | 6.32 |

A statistical analysis using the available data indicates an emissions rate of 5.7 lb/hour (equivalent to 25 tons/year) based on a 99% confidence interval. As shown, actual emissions are much lower than the permitted emissions limits and reflect good control by the installed wet scrubbers. Therefore, the Department will establish 5.7 lb/hour as the PM BART determination for the 'A' and 'B' DFP Coolers. Potential emissions of particulate matter will be reduced from 203 to 25 tons per year. Based on the new standard, it will be necessary to develop new excursion levels for the scrubber parameters in the CAM plan.

4. BART ANALYSIS FOR COMBUSTION SOURCES

'A' DFP Plant (EU-003) and 'B' DFP Plant (EU-038)

There are two existing plants ('A' and 'B') for the production of defluorinated phosphate (DFP). Emissions of particulate matter and sulfur dioxide from these plants are controlled by separate cross-flow packed wet scrubbers utilizing caustic solutions. Only natural gas is fired in these plants.

NO_x Emissions

Based on Annual Operating Reports from 2002 to 2006, the highest reported actual NO_x emissions were 29 tons/year from the 'A' DFP Plant and 29 tons/year from the 'B' DFP Plant. Based on the actual NO_x emissions levels, add-on control equipment (e.g., selective catalytic reduction, selective non-catalytic reduction, flue gas recirculation, etc.) may be feasible, but would not be cost effective. Therefore, the BART determination is the current combustion design and the sole firing of natural gas.

PM Emissions

The estimated particulate matter control efficiency for the cross-flow packed wet scrubber is greater than 95%. The current PM emissions limits for each plant are 14.05 lb/hour (equivalent to 59.00 tons per year). The following table summarizes actual particulate matter from each plant based on stack test data.

Summary of Tested PM Emissions from 'A' and 'B' DFP Plants

| 'A' DFP Plant (EU-003) | | 'B' DFP Plant (EU-038) | |
|------------------------|---------|------------------------|---------|
| Test Date | lb/hour | Test Date | lb/hour |
| 8/10/1978 | 4.7 | 5/31/1985 | 11.63 |
| 4/10/1985 | 11.82 | 10/9/1985 | 7.64 |

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| 'A' DFP Plant (EU-003) | | 'B' DFP Plant (EU-038) | |
|------------------------|---------|------------------------|------------------|
| Test Date | lb/hour | Test Date | lb/hour |
| 11/20/1985 | 7.12 | 5/12/1986 | 10.18 |
| 4/23/1986 | 7.16 | 4/1/1987 | 6.2 |
| 10/1/1986 | 14.46* | 10/1/1987 | 10.72 |
| 3/11/1987 | 10.09 | 3/16/1988 | 10.05 |
| 5/6/1987 | 9.34 | 11/3/1988 | 8.04 |
| 10/14/1987 | 8.67 | 8/9/1989 | 7.89 |
| 6/8/1988 | 11.97 | 3/21/1990 | 5.24 |
| 12/7/1988 | 6.66 | 9/13/1990 | 8.66 |
| 8/3/1989 | 7.54 | 5/1/1991 | 9.6 |
| 6/5/1990 | 7.04 | 10/23/1991 | 6.46 |
| 12/12/1990 | 8.15 | 5/20/1992 | 7.47 |
| 5/1/1991 | 9.67 | 3/10/1993 | 11.51 |
| 9/26/1991 | 6.63 | 3/31/1993 | 9.25 |
| 3/20/1992 | 7.51 | 11/10/1993 | 6.47 |
| 9/23/1992 | 10.42 | 5/4/1995 | 13.14 |
| 5/12/1993 | 10.46 | 2/23/1996 | 11.84 |
| 4/27/1994 | 7.91 | 2/26/1997 | 7.04 |
| 3/1/1995 | 7.91 | 3/4/1998 | 10.88 |
| 2/14/1996 | 6.8 | 3/31/1999 | 10.55 |
| 11/21/1996 | 8.05 | 3/31/1999 | 1.7 [#] |
| 11/19/1997 | 11.08 | 2/21/2001 | 6.43 |
| 10/7/1998 | 13.88 | 2/1/2002 | 7.82 |
| 10/7/1999 | 10.94 | 4/30/2003 | 9.46 |
| 2/24/2000 | 8.37 | 6/9/2004 | 7.94 |
| 11/15/2000 | 7.83 | 5/25/2005 | 11.06 |
| 3/21/2001 | 6.28 | | |
| 4/17/2002 | 13.26 | | |
| 5/7/2003 | 8.3 | | |
| 6/23/2004 | 8.12 | | |
| 6/15/2005 | 6.56 | | |

* This test result appeared high and apparently failed. It was not included in the statistical analysis.

This test result was obtained at less than permitted capacity and was not included in the statistical analysis.

A statistical analysis using the available data based on a 99% confidence interval indicates an emissions rate of 9.8 lb/hour for the 'A' DFP Plant and 10.1 lb/hour for the 'B' DFP Plant. As shown, actual emissions are much lower than the permitted emissions limits and reflect good control by the installed wet scrubbers. In addition, the following Best Available Control Technology (BACT) determinations were made within the last ten years for two similar animal feed supplement plants at other facilities in Florida.

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- PSD-FL-315 issued on November 21, 2001 to Cargill Fertilizer Riverview facility for the animal feed ingredient plant (13 lb/hour);
- PSD-FL-244 issued on September 11, 1998 to IMC New Wales facility for the multifos plant (14.3 lb/hour); and
- PSD-FL-234 issued on June 12, 1997 to Cargill Fertilizer Riverview facility for the animal feed ingredient plant (6 lb/hour).

In each of the above projects, cross-flow packed wet scrubbers were the basis of the BACT determinations for controlling emissions of fluorides and particulate matter. At the actual controlled emissions levels identified by the test data for these units, add-on controls are not believed to be cost effective. Therefore, the Department establishes the following BART determinations for the 'A' and 'B' DFP Plants.

Particulate matter emissions shall not exceed 10.1 lb/hour.

Potential emissions of particulate matter will be reduced from 59 to 44.2 tons per year. Based on the new standard, it will be necessary to develop new excursion levels for the scrubber parameters in the CAM plan.

SO₂ Emissions

The current SO₂ emissions limit for each plant is 8.0 lb/hour (equivalent to 35 tons per year). Annual testing is conducted to demonstrate compliance with the limits. The following table summarizes actual particulate matter from each plant based on stack test data.

Summary of Tested SO₂ Emissions from 'A' and 'B' DFP Plants

| 'A' DFP Plant (EU-003) | | 'B' DFP Plant (EU-038) | |
|------------------------|---------|------------------------|---------|
| Test Date | lb/hour | Test Date | lb/hour |
| 12/11/97 | 0.294 | 02/26/97 | 0.042 |
| 10/07/98 | 0.639 | 03/04/98 | 0.218 |
| 10/07/99 | 0.638 | 03/31/99 | 0.395 |
| 02/24/00 | 0.197 | 02/21/01 | 0.045 |
| 11/15/00 | 0.211 | 02/01/02 | 0.371 |
| 03/21/01 | 0.227 | 05/08/03 | 0.570 |
| 04/17/02 | 0.234 | --- | --- |
| 05/09/03 | 0.477 | --- | --- |

These emissions rates are much lower than the current SO₂ emissions limits based on the installed controls. Actual emissions are approximately one-tenth of the permitted levels. A statistical analysis using the available data indicates an emissions rate of 1 lb/hour based on a 99% confidence interval. The data indicates that the existing cross-flow packed wet scrubber utilizing caustic solutions is effective in controlling sulfur dioxide.

As previously mentioned in the discussion regarding PM emissions, a BACT determination was made for the IMC New Wales facility in 1998, which also included an SO₂ BACT determination of 8.7 lb/hour (based on a cross flow packed wet scrubber utilizing caustic solution for greater than 98% SO₂ removal. This previous recent determination recognizes this technology as a top control. Based on the actual SO₂ emissions levels, add-on control equipment (e.g., wet flue gas desulfurization, hydrated lime injection, etc.) may be feasible, but would not be cost effective. Therefore, the Department establishes the following BART determinations for the 'A' and 'B' DFP Plants.

Sulfur dioxide emissions shall not exceed 2.0 lb/hour as determined by EPA Method 6 or 6C.

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To minimize sulfur dioxide emissions, only natural gas shall be fired in these units.

Potential emissions of sulfur dioxide will be reduced from 35 to 9 tons per year.

X-Train Dical Process (EU-004), Rotary Dryer

In the X-Train dical process, limestone reacts with phosphoric acid in a pug mill. The resulting slurry is then dried in a direct contact rotary dryer, which fires natural gas as the primary fuel and fuel oil with a maximum sulfur content of 1.5% by weight as a backup fuel. The X-Train produces dicalcium phosphate (Dical) in one of two modes: 18.5% phosphorous (Mode 1) and 21.0% phosphorous (Mode 2). The combustion of fossil fuels generates emissions of particulate matter, nitrogen oxides and sulfur dioxide.

NO_x Emissions

Based on Annual Operating Reports from 2002 to 2006, the highest reported actual NO_x emissions were 18 tons/year. Only natural gas was fired. Based on the actual NO_x emissions levels, add-on control equipment (e.g., selective catalytic reduction, selective non-catalytic reduction, flue gas recirculation, etc.) may be feasible, but would not be cost effective. Therefore, the BART determination is the current combustion design and the firing of natural gas as the primary fuel.

PM Emissions

Particulate matter emissions from the rotary dryer are controlled by a series of wet venturi and cyclonic scrubbers. The current PM emissions limits for the rotary dryer are 46.11 lb/hour (equivalent to 202 tons/year) for Mode 1 and 45.11 lb/hour (equivalent to 198 tons/year) for Mode 2. Annual testing is conducted to demonstrate compliance. The following table summarizes actual particulate matter emissions from these units based on recent stack test data in both modes.

Summary of Tested PM Emissions from X-Train (EU-004), Rotary Dryer

| Test Date | lb/hour (EU-004) |
|------------|------------------|
| 8/30/1978 | 7.37 |
| 3/11/1982 | 12.33 |
| 5/23/1985 | 13.63 |
| 3/5/1987 | 2.65 |
| 2/25/1988 | 6.82 |
| 9/9/1988 | 6.82 |
| 3/15/1989 | 6.08 |
| 4/5/1990 | 8.02 |
| 7/26/1990 | 9.26 |
| 3/6/1991 | 9.98 |
| 3/6/1992 | 4.74 |
| 5/27/1992 | 8.57 |
| 6/9/1993 | 8.15 |
| 12/22/1993 | 11.27 |
| 6/15/1994 | 8.96 |
| 5/12/1995 | 7.74 |
| 12/19/1995 | 14.46 |

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| Test Date | lb/hour (EU-004) |
|------------|------------------|
| 5/8/1996 | 7.13 |
| 7/17/1996 | 11.47 |
| 5/22/1997 | 9.77 |
| 10/22/1997 | 15.02 |
| 7/9/1998 | 6.91 |
| 11/18/1998 | 8.38 |
| 7/15/1999 | 6.78 |
| 4/11/2000 | 13.3 |
| 6/29/2000 | 6.78 |
| 2/14/2001 | 12.21 |
| 3/27/2002 | 10.01 |
| 3/13/2003 | 24.71 |
| 4/8/2004 | 10.8 |
| 5/5/2005 | 12.48 |
| 10/12/2006 | 16.01 |
| 2/14/2007 | 12.36 |
| 10/17/2007 | 6.44 |

In general, these emissions rates are lower than the current PM emissions limits and reflect the capabilities of the installed wet venturi and cyclonic scrubbers. A statistical analysis using the available data indicates an emissions rate of 11.8 lb/hour based on a 99% confidence interval.

In November of 2000, the Department issued a BACT determination (PSD-FL-297) for this unit to increase the production rate of the X-Train from 45 to 55 tons per hour of product. Later, the applicant decided not to implement the production increase due to market conditions. However, in this determination, the Department considered the existing control equipment as the basis for a BACT standard of 22.04 lb/hour and 96.5 tons per year of particulate matter.

Based on the recent BACT determination for this unit and the actual controlled emissions levels, the existing scrubbing system is recognized as a top control option for the rotary dryer. Therefore, the Department establishes the following PM BART determination.

Particulate matter emissions from the X-Train rotary dryer (all modes) shall not exceed 11.8 lb/hour as determined by EPA Method 5.

Potential emissions of particulate matter will be reduced from 400 to 52 tons per year. Based on the new standard, it will be necessary to develop new excursion levels for the scrubber parameters in the CAM plan.

SO₂ Emissions

The current SO₂ emissions limits for the rotary dryer are 11.1 lb/hour (equivalent to 48.62 tons/year). Records based on the Annual Operating Reports show that only natural gas has been fired since 1985. Based on the actual SO₂ emissions levels, add-on control equipment (e.g., wet flue gas desulfurization, hydrated lime injection, etc.) may be feasible, but would not be cost effective. Therefore, the BART determination for SO₂ emissions is:

Natural gas shall be fired as the primary fuel in the X-Train dryer. Fuel oil with a maximum sulfur content of 1.5% by weight shall only be fired as a backup fuel when the vendor is unable to provide natural gas.

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Y-Train No. 1 DAP/MAP Plant (EU-008)

In the Y-Train DAP/MAP Plant, DAP fertilizer may be produced by two different modes and MAP fertilizer may be produced by three different modes. The plant operates in only one mode at a time. The plant is currently producing MAP by reacting ammonia and phosphoric acid in two pipe reactors. The plant consists of two separate pipe reactors, a tank reactor for other modes, two pug mills, a granulator, a dryer, a cooler, screens, mills, and other associated equipment. Natural gas is fired in the dryer as the primary fuel and fuel oil with a maximum sulfur content of 1.5% by weight may be fired as a backup fuel. Emissions of particulate matter, fluoride and SO₂ are controlled by cyclones, venturi scrubbers and cyclonic scrubbers. Emissions from the pipe reactors are vented to the reactor scrubber for ammonia removal and then to a pond water scrubber for fluoride control.

NO_x Emissions

Based on Annual Operating Reports from 2002 to 2006, the highest reported actual NO_x emissions were 6 tons/year. Only natural gas was fired. Based on the actual NO_x emissions levels, add-on control equipment (e.g., selective catalytic reduction, selective non-catalytic reduction, flue gas recirculation, etc.) may be feasible, but would not be cost effective. Therefore, the BART determination is the current combustion design and the firing of natural gas as the primary fuel.

PM Emissions

The current particulate matter emissions limits for the Y-Train No. 1 DAP/MAP Plant are:

- PM (DAP production): 33.33 lb/hour (equivalent to 146 tons/year); and
- PM (MAP production): 45.15 lb/hour (equivalent to 198 tons/year).

The PM emissions limits are very high and based on regulation by the process weight table in Rule 62-296.320, F.A.C. However, annual testing is conducted to demonstrate compliance. The following table summarizes actual particulate matter emissions from these units based on recent stack test data.

Summary of Tested PM Emissions from the Y-Train DAP/MAP Plant (EU-008)

| Tested PM Emissions (EU-008), lb/hour | | |
|---------------------------------------|-------|------|
| Test Date | DAP | MAP |
| 2000 | 4.46 | --- |
| 2001 | Down | --- |
| 2002 | Down | --- |
| 2003 | 3.33 | --- |
| 2004 | Down | 3.44 |
| | | 4.26 |
| | | 5.70 |
| 2005 | 11.46 | Down |
| 2006 | Down | 3.2 |
| | | 3.81 |
| | | 4.37 |
| 2007 | Down | 1.18 |
| | | 1.96 |
| | | 2.22 |

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These emissions rates are much lower than the current PM emissions limits based on the installed controls. Using all of the above data, a statistical analysis indicates an emissions rate of 6.5 lb/hour based on a 99% confidence interval. In addition, several similar DAP/MAP Plants at other facilities in Florida have been subject to PSD preconstruction review. The following summarizes the resulting PM BACT determinations for these projects:

- Permit No. PSD-FL-251 was issued on August 8, 2001 to Cargill Fertilizer Riverview facility for the Nos. 3 and 4 MAP plants. The PM BACT emissions limit was established as 0.12 lb/ton P₂O₅ feed.
- Permit No. PSD-FL-255 was issued on April 21, 1999 to Cargill Fertilizer Bartow facility for the No. 3 DAP/MAP plant. The PM BACT emissions limit was established as 0.18 lb/ton P₂O₅ feed.
- Permit No. PSD-FL-322 was issued on March 2, 2002 to Cargill Fertilizer Bartow facility for the No. 4 DAP plant. The PM BACT emissions limit was established as 0.15 lb/ton P₂O₅ feed.
- Permit No. PSD-FL-336 was issued on March 16, 2004 to Cargill Fertilizer Riverview facility for the No. 6 Granulation plant. The PM BACT emissions limit was established as 0.15 lb/ton P₂O₅ feed.

All of the above BACT determinations were based on the use of venturi scrubbers and cyclonic scrubbers for particulate control. Therefore, the Department recognizes this equipment as a top control option and establishes the following BART standards.

PM (MAP/DAP production): 0.18 lb/ton of P₂O₅ feed and 6.5 lb/hour (equivalent to 29 tons/year)

These limits would apply for all modes. The BART determinations are within the range of the recent BACT determinations. Total potential PM emissions will be reduced from 198 to 29 tons/year.

SO₂ Emissions

The current SO₂ emissions limits for the dryer are 11.1 lb/hour (equivalent to 49) tons/year, which appear to be based on fuel oil firing. However, no testing is required. Natural gas is fired as the primary fuel. Fuel oil with a maximum sulfur content of 1.5% by weight is authorized as a backup fuel. A review of the fuel usage for the years 2000-2006 for the Y-Train indicates that only natural gas was fired. Natural gas contains negligible amounts of sulfur would generate little sulfur dioxide. Based on the actual SO₂ emissions levels, add-on control equipment (e.g., wet flue gas desulfurization, hydrated lime injection, etc.) may be feasible, but would not be cost effective. Therefore, the Department establishes the following BART determination.

To control sulfur dioxide emissions from the Y-Train dryer, natural gas shall be fired as the primary fuel. If the vendor is unable to provide natural gas, fuel oil with a maximum sulfur content of 1.5% by weight may be fired as a backup fuel.

“C” and “D” Sulfuric Acid Plants (EU-021 and EU-022)

The ‘C’ and ‘D’ sulfuric acid plants are sulfur-burning double absorption processes. This is the most common process for producing sulfuric acid in the U.S. phosphate fertilizer industry and it continues to be improved and employed at both existing and new installations in the U.S. and throughout the world. These plants generate NO_x and SO₂ emissions from the burning of sulfur.

NO_x Emissions

Based on Annual Operating Reports, NO_x emissions were last reported in 2000 as 60 tons/year for each of the sulfuric acid plants. Based on the actual NO_x emissions levels, add-on control equipment (e.g., selective catalytic reduction, selective non-catalytic reduction, flue gas recirculation, etc.) may be feasible, but would not be cost effective. The existing ‘E’ Sulfuric Acid Plant (EU-066) at this facility is a similar double-absorption plant with a NO_x limit of 0.14 lb/ton of 100% acid produced. Therefore, the Department establishes the following BART determination.

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Nitrogen oxides emissions (expressed as NO₂) from the 'C' and 'D' Sulfuric Acid Plants (EU-021 and EU-022) shall not exceed 0.14 lb/ton of 100% acid produced as determined by EPA Method 7E.

PM Emissions

For regulated sulfuric acid plants, particulate matter is generally minimized by controlling sulfuric acid mist. For new sulfuric acid plants, Rule 62-296.402, F.A.C. and NSPS Subpart H, limit sulfuric acid mist emissions to 0.15 lb/ton of 100% sulfuric acid produced and less than 10% opacity. The 'C' and 'D' Sulfuric Acid Plants (EU-021 and EU-022) are subject to these standards and a Brinks mist eliminator is used to reduce sulfuric acid mist emissions. Therefore, the Department establishes the following PM BART determination.

Visible emissions from the 'C' and 'D' Sulfuric Acid Plants shall not exceed 10% opacity as determined by EPA Method 9.

SO₂ Emissions

Permitted sulfur dioxide emissions are 4.0 lb/ton (383.33 lb/hour) based on a 3-hour CEMS average (equivalent to and 1679 tons/year). The double absorption process controls SO₂ emissions and a high efficiency mist eliminator controls sulfuric acid mist emissions. There are four recent SO₂ BACT determinations for three similar plants at other facilities in Florida:

- PSD-FL-355 issued on July 23, 2007 to CF Industries, Inc. for the sulfuric acid and phosphoric acid plants (3.5 lb/ton, 3-hour CEMS average);
- PSD-FL-339 issued on June 1, 2004 to CF Industries, Inc. for the C & D sulfuric acid plants (3.5 lb/ton, 3-hour CEMS average);
- PSD-FL-325 issued on July 12, 2002 to IMC Phosphates, Inc. New Wales facility for Nos. 1, 2 and 3 sulfuric acid plants (3.5 lb/ton on a 24-hour CEMS average and 4.0 lb/ton on a 3-hour average); and
- PSD-FL-315 issued on November 21, 2001 to Cargill Fertilizer Riverview facility for #8 and 9 sulfuric acid plants (3.5 lb/ton on a 24-hour CEMS average and 4.0 lb/ton on a 3-hour average).

In Permit No. PSD-FL-355 above, the BACT determination was for a single absorption plant where the plant accepted the BACT standard based on a double absorption process. The remaining projects concluded BACT to be the use of double absorption process for SO₂ emissions. Therefore, the Department recognizes this equipment as a top control option. In addition, the Department reviewed CEMS data for the two plants for the period 1/1/2006 through 12/31/2006. The CEMS data indicates that the plants consistently achieved an emissions rate of 3.5 lb/ton with few excursions above this level while operating near the permitted production rates. Therefore, the Department establishes the following BART standard based on the use of double absorption process for each plant.

Sulfur dioxide emissions from the 'C' and 'D' Sulfuric Acid Plants shall not exceed 3.5 lb/ton (335.4 lb/hour) based on a 24-hour CEMS rolling average.

Since the CEMS data indicates that there were some instances of SO₂ emissions greater than 3.5 lb/ton, the applicant may need to modify the plants (e.g., add catalyst, replace catalyst, increase the size of the converter, etc.). However, with an effective date of 2013, this is readily achievable. Potential SO₂ emissions will be reduced from 1679 to 1469 tons/year.

Z-Train No. 2 DAP/MAP Plant (EU-032)

In the Z-Train DAP/MAP Plant, DAP fertilizer may be produced by two different modes and MAP fertilizer may be produced by two different modes. The plant is currently producing only DAP. The Z-Train has two emissions points. Emissions from the granulator and dryer are controlled by a venturi scrubber and cyclonic scrubbers followed by a tail-gas packed scrubber and exhaust through a stack. Emissions from the cooler exit a separate stack after control by a wet scrubber. All the scrubbers are wet scrubbers with phosphoric acid and

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pond water acting as the scrubbing medium. Process fuels include natural gas and fuel oil (including on-specification used oil) with a maximum sulfur content of 1.0% by weight.

NO_x Emissions

Based on Annual Operating Reports from 2002 to 2006, the highest reported actual NO_x emissions were 7 tons/year. Only natural gas was fired. Based on the actual NO_x emissions levels, add-on control equipment (e.g., selective catalytic reduction, selective non-catalytic reduction, flue gas recirculation, etc.) may be feasible, but would not be cost effective. Therefore, the BART determination is the current combustion design and the firing of natural gas as the primary fuel.

PM Emissions

The current PM emissions limit is 47.37 lb/hour (equivalent to 207 tons/year) from the dryer for DAP/MAP production. The PM emissions limits are very high and based on regulation by the process weight table in Rule 62-296.320, F.A.C. However, annual testing is conducted to demonstrate compliance. The following table summarizes actual particulate matter emissions from these units based on recent stack test data.

Summary of Tested PM Emissions from the Z-Train DAP/MAP Plant (EU-032)

| Tested PM Emissions (EU-032) | |
|------------------------------|---------|
| Test Date | lb/hour |
| 7/20/1978 | 24.2 |
| 1/4/1979 | 19.76 |
| 8/25/1980 | 5.77 |
| 6/24/1981 | 4.11 |
| 7/6/1981 | 7.75 |
| 4/29/1985 | 12.99 |
| 6/26/1986 | 10.59 |
| 7/23/1987 | 34.4 |
| 1/27/1988 | 5.74 |
| 8/3/1988 | 5.81 |
| 2/8/1989 | 1.06 |
| 9/20/1989 | 4.7 |
| 4/25/1990 | 10.29 |
| 10/24/1990 | 3.33 |
| 4/11/1991 | 3.8 |
| 12/18/1991 | 5.99 |
| 6/17/1992 | 5.72 |
| 4/29/1993 | 4.01 |
| 12/9/1993 | 7.38 |
| 7/14/1994 | 3.6 |
| 4/26/1995 | 3.16 |
| 10/19/1995 | 47.37* |
| 4/25/1996 | 4.23 |

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| Tested PM Emissions (EU-032) | |
|------------------------------|---------|
| Test Date | lb/hour |
| 10/17/1996 | 3.99 |
| 4/16/1997 | 2.59 |
| 6/10/1998 | 3.45 |
| 12/16/1998 | 1.55 |
| 6/15/1999 | 7.48 |
| 6/18/1999 | 3.61 |
| 6/14/2000 | 6.69 |
| 12/4/2001 | 3.47 |
| 1/15/2003 | 1.79 |
| 1/21/2004 | 2.09 |
| 1/27/2005 | 4.84 |
| 6/10/2005 | 2.19 |
| 4/6/2006 | 2.81 |
| 5/5/2006 | 3.18 |
| 6/9/2006 | 2.37 |
| 6/14/2006 | 1.43 |
| 5/3/2007 | 5.95 |

* This test result appeared high and apparently failed. It was not included in the statistical analysis.

These emissions rates are much lower than the current PM emissions limits and reflect the installed controls. A statistical analysis using the available data indicates the following emissions rate based on a 99% confidence interval:

PM (DAP production): 0.22 lb/ton of P₂O₅ feed and 9.2 lb/hour (equivalent to 40 tons/year)

As previously discussed, several similar DAP/MAP Plants at other facilities in Florida have been subject to PSD preconstruction review. These BACT determinations were based on the use of wet venturi scrubbers and cyclonic scrubbers for particulate control and ranged from 0.15 to 0.18 lb/ton of P₂O₅ feed. Therefore, the Department recognizes this equipment as a top control option and establishes the following PM BART determination.

PM (DAP production): 0.22 lb/ton of P₂O₅ feed and 9.2 lb/hour (equivalent to 40 tons/year)

The proposed standard is near the range determined to be BACT for this process. Based on the BART determinations, potential SO₂ emissions will be reduced from 207 tons/year to 40 tons/year.

In addition to the dryer, this emissions unit includes a small cooler that was a later addition to the Z-Train. Particulate matter emissions are controlled by a wet scrubber. The application for air construction permit (No. 0470002-032-AC), indicated that potential controlled PM emissions are less than 15 tons/year. The current permit limits visible emissions from the cooler to no more than 20% opacity. There is no actual emissions data for this unit. Based on the amount of potential emissions, the wet scrubber will be considered a top control for the cooler. The Department establishes the following PM BART determination for cooler.

Visible emissions from the Z-Train dryer and cooler shall not exceed 20% opacity as determined by EPA Method 9.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

SO₂ Emissions

The current SO₂ emissions limits for the plant are 11.80 lb/hour (equivalent to 52 tons/year). However, no testing is required. Compliance is demonstrated by the firing natural gas and achieving the fuel sulfur limitation of 1.5% by weight for fuel oil. A review of the fuel usage for the years 2000-2006 for the Y Train indicates that only natural gas was fired, which would generate negligible amounts of SO₂ emissions. Based on primary fuel fired and the actual SO₂ emissions levels, add-on control equipment (e.g., wet flue gas desulfurization, hydrated lime injection, etc.) may be feasible, but would not be cost effective. Therefore, the Department establishes the following SO₂ BART determination:

Natural gas shall be fired as the primary fuel in the Z-Train dryer (EU-032). If the vendor is unable to provide natural gas, fuel oil or on-specification used oil with a maximum sulfur content of 1.0% by weight may be fired as a backup fuel.

DFP Feed Prep (EU-042) - Dryer (EP-05)

To provide the heat necessary to dry raw materials, the dryer in the DFP Feed Prep fires natural gas or fuel oil with a maximum sulfur content of 1.50% by weight. Emissions from the dryer include NO_x, PM and SO₂ from fuel combustion and additional PM from the materials being dried.

NO_x Emissions

Based on Annual Operating Reports from 2002 to 2006, the highest reported actual NO_x emissions were 7 tons/year from the combustion of natural gas. No fuel oil was fired. Based on the actual NO_x emissions levels, add-on control equipment (e.g., selective catalytic reduction, selective non-catalytic reduction, flue gas recirculation, etc.) may be feasible, but would not be cost effective. Therefore, the BART determination is the current combustion design and the firing of natural gas as the primary fuel.

PM Emissions

Particulate matter emissions from the dryer are controlled by an existing wet scrubber with an estimated control efficiency of greater than 95%. For the construction of this emissions unit, the plant did not consider a baghouse appropriate for the high-moisture exhaust, which may cause plugging and blinding of the fabric materials. As a result, a wet scrubber was installed. Currently, the particulate matter emissions limit for the dryer is 31.99 lb/hour (equivalent to 134 tons/year). Again, the particulate matter emissions limits are very high and based on regulation by the process weight table in Rule 62-296.320, F.A.C. Annual testing is conducted to demonstrate compliance with the limits. The following table summarizes actual particulate matter emissions from the dryer based on recent stack test data.

Summary of PM Test Data for Dryer
in DFP Feed Prep (EU-042, EP-05)

| Date | Tested Emissions lb/hour (EU-42, EP-05) |
|------------|--|
| 11/8/1984 | 4.72 |
| 11/13/1985 | 9.35 |
| 10/23/1986 | 1.15 |
| 10/8/1987 | 3.14 |
| 10/26/1988 | 4.43 |
| 10/26/1989 | 11.51 |
| 12/10/1990 | 2.49 |
| 10/31/1991 | 3.87 |
| 10/7/1992 | 1.54 |

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

| Date | Tested Emissions lb/hour (EU-42, EP-05) |
|------------|--|
| 10/20/1993 | 0.75 |
| 12/1/1994 | 0.64 |
| 12/12/1995 | 0.59 |
| 11/12/1997 | 1.25 |
| 10/1/1998 | 0.83 |
| 9/30/1999 | 0.42 |
| 8/16/2000 | 1.33 |
| 8/15/2001 | 1.11 |
| 8/14/2003 | 1.11 |
| 8/27/2003 | 0.84 |
| 8/26/2004 | 0.98 |

As shown, the actual emissions rates based on the installed controls are much lower than the permitted emissions limit. A statistical analysis using the available data indicates an emissions rate of 4.5 lb/hour based on a 99% confidence interval. At the currently controlled emissions levels, add-on controls are not believed to be cost effective. Therefore, the Department establishes the following PM BART determination for the dryer.

Particulate matter emissions from the DFP Feed Prep Dryer (EU-042, EP-05) shall not exceed 4.5 lb/hour as determined by EPA Method 5.

Potential emissions of particulate matter will be reduced from 134 to 20 tons per year. Based on the new standard, it will be necessary to develop new excursion levels for the scrubber parameters in the CAM plan.

SO₂ Emissions

The current SO₂ emissions limits are 4.9 lb/hour (equivalent to 21 tons per year), which are based on the firing of fuel oil. Records based on the Annual Operating Reports show that only natural gas has been fired since 1985, which would generate minimal SO₂ emissions. Based on the actual SO₂ emissions levels, add-on control equipment (e.g., wet flue gas desulfurization, hydrated lime injection, etc.) may be feasible, but would not be cost effective. Therefore, the Department establishes the following BART determination for the dryer.

Natural gas shall be fired as the primary fuel in the DFP Feed Prep Dryer (EU-042, EP-05). If the vendor is unable to provide natural gas, fuel oil with a maximum sulfur content of 1.5% by weight may be fired as a backup fuel.

Swift Creek Mine (SCM) Rock Dryer (EU No. 064)

The Swift Creek Mine operates a fluidized bed phosphate rock dryer fired primarily with natural gas. When natural gas is not available, the rock dryer may fire fuel oil with maximum sulfur content of 1.3% by weight or on-specification used oil with maximum sulfur content of 1.0% by weight.

NO_x Emissions

Based on Annual Operating Reports from 2002 to 2006, the highest reported actual NO_x emissions were 2 tons/year. Only natural gas was fired. Based on the actual NO_x emissions levels, add-on control equipment (e.g., selective catalytic reduction, selective non-catalytic reduction, flue gas recirculation, etc.) may be feasible, but would not be cost effective. Therefore, the NO_x BART determination is the current combustion design and the firing of natural gas as the primary fuel.

PM Emissions

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Particulate matter emissions are controlled by a two-stage wet cyclonic scrubber with two stacks. The control efficiency is estimated as greater than 95%. Most of the recent BACT determinations reflect wet scrubber control technology for phosphate rock dryers. The permitted PM emissions limits are 46.4 lb/hour (equivalent to 203 tons/year). The mass emissions limit appears high and is based on the regulation by the process weight table in Rule 62-296.320, F.A.C. However, annual testing is conducted to demonstrate compliance. The following table summarizes actual particulate matter emissions from these units based on recent stack test data.

Summary of Tested PM Emissions from the Phosphate Rock Dryer (EU-064)

| Tested PM Emissions (EU-064) | |
|------------------------------|---------|
| Test Date | lb/hour |
| 2000 | 16.55 |
| 2001 | 12.65 |
| 2002 | 6.34 |
| 2003 | 7.19 |
| 2004 | 5.86 |
| 2005 | 16.55 |
| 2006 | 3.86 |

A statistical analysis using the available data indicates 17.3 lb/hour PM emissions rate based on a 99% confidence interval. As shown, the actual emissions rates based on the installed controls are much lower than the permitted emissions limit. Therefore, the Department recognizes this equipment as a top control option and establishes the following PM BART determination.

Particulate matter emissions from the Phosphate Rock Dryer (EU-064) shall not exceed 17.3 lb/hour as determined by EPA Method 5.

Potential emissions of particulate matter will be reduced from 203 to 76 tons/year.

SO₂ Emissions

The permitted SO₂ emissions limit for the rock dryer is 38.1 lb/hour (equivalent to 166.88 tons/year), which appears to be based on the firing of fuel oil. Records of the fuel usage of the rock dryer based on Annual Operating Reports indicate that only natural gas was fired since 1999. Emissions of SO₂ from firing natural gas in the rock dryer are negligible. Based on the actual SO₂ emissions levels, add-on control equipment (e.g., wet flue gas desulfurization, hydrated lime injection, etc.) may be feasible, but would not be cost effective. Therefore, the Department establishes the following BART determination.

Natural gas shall be fired as the primary fuel in the phosphate rock dryer. When the vendor is unable to provide natural gas, fuel oil with a maximum sulfur content of 1.5% by weight may be fired as a backup fuel.

Molten Sulfur System for 'C' and 'D' Sulfuric Acid Plants (EU-054)

The molten sulfur system for the 'C' and 'D' sulfuric acid plants consists of a rail and truck unloading system with transfer point venting, receiving pit, supply pit, and storage tank. These activities are regulated by the work practice standards specified in Rule 62-296.411(1), F.A.C. for molten sulfur storage and handling facilities. Potential emissions from these activities are estimated to be 2.2 tons per year of particulate matter and 3.4 tons per year of sulfur dioxide. Similar molten sulfur systems throughout Florida do not currently use add-on control equipment because of such relatively low emissions rates. It is unlikely that add-on control equipment would be cost effective at these levels. Therefore, the Department establishes the applicable work practice standards of Rule 62-296.411(1), F.A.C. as the PM and SO₂ BART determinations for this unit, which includes: enclosing

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

pipng systems where feasible and practical; minimizing spillage; paved containment areas; and a visible emissions standard of no more than 20% opacity.

COMPARISON OF EXISTING EMISSIONS LIMITS TO BART DETERMINTIONS

Particulate-Only Emissions Units with Baghouses

| EU No. | EP No. | Emissions Unit Description | Emissions Standard | |
|--------|-----------------------|-------------------------------------|--------------------|------------|
| | | | Existing | BART |
| 001 | | Phosphate rock grinder | 5% opacity | 5% opacity |
| 004 | X-Train Dical Process | | | |
| | 02 | Dedust bin | 5% opacity | 5% opacity |
| | 03 | Shipping area | 5% opacity | 5% opacity |
| | 04 | Limestone silo | 5% opacity | 5% opacity |
| | 05 | Reclaim bin | 5% opacity | 5% opacity |
| | 06 | Material handling | 5% opacity | 5% opacity |
| 042 | DFP Feed Prep | | | |
| | EP-01 | Rock bin | 5% opacity | 5% opacity |
| | EP-02 | Miscellaneous | 5% opacity | 5% opacity |
| | EP-03 | Lime silo | 5% opacity | 5% opacity |
| | EP-04 | Lime bin | 5% opacity | 5% opacity |
| | EP-06 | Soda ash silo | 5% opacity | 5% opacity |
| | EP-07 | Soda ash bin | 5% opacity | 5% opacity |
| 062 | DFP Product Silos | | | |
| | EP-14 | Product Sizing and Crushing Silos | 5% opacity | 5% opacity |
| | EP-16 | Silos A - C and shipping operations | 5% opacity | 5% opacity |

The above BART determinations also include the following baghouse design specification: Bags/filters in each baghouse control system shall be selected based on a design outlet specification of 0.01 grains per actual cubic feet of exhaust.

Particulate-Only Emissions Units Controlled by Wet Scrubbers

| EU No. | Emissions Unit Description | Emissions Standard | |
|--------|---------------------------------|--------------------|--------------|
| | | Existing | Existing |
| 010 | No. 1 Storage/Shipping Building | 36.17 lb/hour | 4.7 lb/hour |
| 015 | MAP/DAP Shipping Facility | 40.41 lb/hour | 1.2 lb/hour |
| 044 | 'A' and 'B' DFP Coolers | 25.04 lb/hour | 12.3 lb/hour |
| 065 | Swift Creek Mine Silos | 46.4 lb/hour | 5.7 lb/hour |

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Emissions Units with Combustion – Particulate Matter

| EU No. | EP No. | Emissions Unit Description | Emissions Standards | |
|--------|--------|---|---------------------|--|
| | | | Existing | BART |
| 003 | | 'A' DFP Plant with PM and SO ₂ controlled by wet scrubbing | 14.05 lb/hour | 10.1 lb/hour |
| 004 | | X-Train Dical Process | | |
| | EP-01 | X-Train Rotary Dryer with PM controlled by wet scrubbing | 46.11 lb/hour | 11.8 lb/hour (all modes) |
| 008 | | Y-Train No. 1 DAP Plant with PM controlled by wet scrubbing | 33.33 lb/hour | 0.18 lb/ton P ₂ O ₅ input 6.5 lb/hour (all modes) |
| | | Y-Train No. 1 MAP Plant with PM controlled by wet scrubbing | 45.15 lb/hour | |
| 021 | | 'C' Sulfuric Acid Plant with double absorption process | 10% opacity | 10% opacity |
| 022 | | 'D' Sulfuric Acid Plant with double absorption process | 10% opacity | 10% opacity |
| 032 | | Z-Train No. 2 DAP/MAP Plant | | |
| | EP-01 | Main part of DAP process with PM controlled by wet scrubbing | lb/hour | 9.2 lb/hour |
| 038 | | 'B' DFP Plant with PM and SO ₂ controlled by wet scrubbing | lb/hour | 10.1 lb/hour |
| 042 | | DFP Feed Prep | | |
| | EP-05 | DFP Feed Prep Dryer with PM controlled by wet scrubber | lb/hour | 4.5 lb/hour |
| 064 | | Swift Creek Mine (SCM) Rock Dryer with PM controlled by wet scrubber | lb/hour | 17.3 lb/hour |

Emissions Units with Combustion – Sulfur Dioxide

| EU No. | EP No. | Emissions Unit Description | Emissions Standards | |
|--------|--------|---|---------------------|------------------|
| | | | Existing | BART |
| 003 | | 'A' DFP Plant with PM and SO ₂ controlled by wet scrubbing | 8.0 lb/hour | 2.0 lb/hour, a |
| 004 | | X-Train Dical Process | | |
| | EP-01 | X-Train Rotary Dryer with PM controlled by wet scrubbing | 11.1 lb/hour | b |
| 008 | | Y-Train No. 1 DAP Plant with PM controlled by wet scrubbing | 11.1 lb/hour | b |
| | | Y-Train No. 1 MAP Plant with PM controlled by wet scrubbing | 11.1 lb/hour | b |
| 021 | | 'C' Sulfuric Acid Plant with double absorption process | 4 lb/ton AP | 3.5 lb/ton AP, c |
| 022 | | 'D' Sulfuric Acid Plant with double absorption process | 4 lb/ton AP | 3.5 lb/ton AP, c |
| 032 | | Z-Train No. 2 DAP/MAP Plant | | |
| | EP-01 | Main part of DAP process with PM controlled by wet scrubbing | 11.8 lb/hour | d |
| 038 | | 'B' DFP Plant with PM and SO ₂ controlled by wet scrubbing | 8.0 lb/hour | 2.0 lb/hour, a |
| 042 | | DFP Feed Prep | | |
| | EP-05 | DFP Feed Prep Dryer with PM controlled by wet scrubber | 4.9 lb/hour | b |
| 064 | | Swift Creek Mine (SCM) Rock Dryer with PM controlled by wet scrubber | 38.1 lb/hour | e |

- a. In addition to the SO₂ emissions standard, sulfur dioxide emissions from these units shall be limited by firing natural gas the only fuel.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- b. To control sulfur dioxide emissions, natural gas shall be fired as the primary fuel. If the vendor is unable to provide natural gas, fuel oil with a maximum sulfur content of 1.5% by weight may be fired as a backup fuel.
- c. Sulfur dioxide emissions from the "C" and "D" Sulfuric Acid Plants (EU-021 and EU-022) shall not exceed 3.5 lb/ton of 100% sulfuric acid produced (AP) based on a 24-hour rolling CEMS average. No stack testing is required.
- d. To control sulfur dioxide emissions, natural gas shall be fired as the primary fuel. If the vendor is unable to provide natural gas, fuel oil or on-specification used oil with a maximum sulfur content of 1.0% by weight may be fired as a backup fuel.
- e. To control sulfur dioxide emissions, natural gas shall be fired as the primary fuel. If the vendor is unable to provide natural gas, fuel oil with a maximum sulfur content of 1.3% by weight or on-specification used oil with a maximum sulfur content of 1.0% by weight may be fired as backup fuel.

Emissions Units with Combustion – Nitrogen Oxides

There are no existing NO_x emissions standards for the BART-eligible emissions units. The BART determinations are as follows.

Nitrogen oxides emissions (expressed as NO₂) from the 'C' and 'D' Sulfuric Acid Plants (EU-021 and EU-022) shall not exceed 0.14 lb/ton of 100% sulfuric acid produced as determined by EPA Method 7E.

Nitrogen oxides emissions from the remaining emissions units shall be controlled by the inherent combustion design of the existing units and the firing of natural gas as the primary fuel. [Rule 62-4.070(3), F.A.C.]

Molten Sulfur System for 'C' and 'D' Sulfuric Acid Plants

Rule 62-296.411, F.A.C. established work practice standards for "Molten Sulfur Facilities" to control sulfur and particulate emissions. The BART determination adopts these work practice standards, which includes an opacity limit of 20%.

6. MODELING ANALYSIS WITH BART CONTROLS

As summarized in Section 2, the applicant conducted a BART modeling analysis based on current actual emissions rates from the BART-eligible emissions units. After consideration of the actual emissions from the BART-eligible units with existing controls in place, the existing equipment is considered a top control option. Therefore, it was not necessary to conduct an air quality modeling analysis for the purpose of determining the resulting visibility impacts.

7. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations regarding BART as conditioned by the draft permit. This determination is based on a technical review of the complete application, all available information, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Syed Arif is the project engineer responsible for reviewing the application and drafting the permit. Cleve Holladay is the project meteorologist responsible for reviewing the modeling analysis for visibility.

DRAFT PERMIT

PERMITTEE

White Springs Agricultural Chemicals, Inc.
P.O. Box 300
White Springs, Florida 32096

Authorized Representative:

W.K. Thornton, General Manager

| |
|---|
| Permit No. 0470002-055-AC Suwannee River/Swift Creek Complex BART Project Expires: June 30, 2014 |
|---|

PLANT AND LOCATION

White Springs Agricultural Chemicals, Inc. operates the Suwannee River/Swift Creek complex, which processes phosphate rock into several products. The phosphate complex is classified by Standard Industrial Classification (SIC) Code No. 2874. The existing facility is located in Hamilton County at 15843 SE 78th Street in White Springs, Florida. This site is located about 25 kilometers from the Okefenokee National Wilderness Area, which is a PSD Class I Area. The UTM coordinates are Zone 17; 328.3 km E; 3368.8 km N.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). Specifically, this project is subject to Rule 62-296.340, F.A.C., which requires a determination of the Best Available Retrofit Technology (BART) for each BART-eligible source as defined in 40 CFR 51.301. The state rule implements the federal provisions of Appendix Y in 40 CFR Part 51, "Guidelines for BART Determinations Under the Regional Haze Rule". In accordance with Appendix Y in 40 CFR 51, the affected visibility-impairing pollutants include the following: nitrogen oxides (NO_x), particulate matter (PM), and sulfur dioxide (SO₂). Pursuant to Rule 62-296.340, F.A.C., the permittee shall install or modify the air pollution control equipment and/or implement the air pollution control measures that are specified by this permit as the Best Available Retrofit Technology (BART).

EFFECTIVE DATE

Unless otherwise specified by this permit, the BART-eligible sources shall demonstrate compliance with the conditions of this permit no later than December 31, 2013. [Rule 62-296.340(3)(b)2, F.A.C.]

Executed in Tallahassee, Florida

(DRAFT)

Joseph Kahn, Director
Division of Air Resource Management

(Date)

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

White Springs Agricultural Chemicals, Inc. operates an existing phosphate complex, which processes phosphate rock to produce several products at the Suwannee River/Swift Creek Complex (two plants). The facility consists of one rock grinder, two phosphoric acid plants, two defluorinated phosphate (DFP) plants, one dical process, two diammonium phosphate (DAP) plants, one monoammonium (MAP)/DAP storage building, one MAP/DAP screen/shipping building, four sulfuric acid plants (SAP), two phosphoric acid filters, four superphosphoric acid plants, one green superphosphoric acid plant, the Swift Creek Mine rock dryer, and one acid clarification plant. The facility also has storage silos associated with the Swift Creek Mine and the DFP plant. Sulfuric acid is produced on-site by burning elemental sulfur, converting the resulting sulfur dioxide to sulfur trioxide, and absorbing it into a recirculating sulfuric acid solution. Phosphoric acid is made by acidulation of phosphate rock with sulfuric acid. Waste gypsum is produced and stacked. The phosphoric acid is reacted with ammonia to make MAP and DAP. The phosphoric acid is reacted with limestone and other raw materials to make animal feed ingredients.

FACILITY REGULATORY CLASSIFICATIONS

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source pursuant to Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility operates BART-eligible units subject to Rule 62-296.340 (BART), F.A.C.

BART-ELIGIBLE EMISSIONS UNITS

This permitting action affects the following BART-eligible emissions units (EU) at the plant.

| EU No. | Emission Unit Description |
|--------|---|
| 001 | # 2 Phosphate Rock Grinder |
| 003 | 'A' DFP Plant |
| 004 | X-Train (Dical Process) |
| 008 | 'Y' Train - #1 DAP Plant |
| 010 | #1 MAP/DAP - Storage Building |
| 015 | MAP/DAP Shipping and Screening Facility |
| 021 | 'C' SAP |
| 022 | 'D' SAP |
| 032 | 'Z' Train - #2 DAP Plant |
| 038 | 'B' DFP Plant |
| 042 | DFP Feed Prep |
| 044 | 'A' and 'B' DFP Coolers |
| 054 | Molten Sulfur System |
| 062 | DFP Silos |
| 064 | Swift Creek Mine Rock Dryer |
| 065 | Swift Creek Mine Silos |

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The Permitting Authority for this project is the Bureau of Air Regulation in the Division of Air Resource Management of the Florida Department of Environmental Protection. The mailing address for the Bureau of Air Regulation is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400 (phone number 850/488-0114).
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the submitted to the Department's Northeast District Office, 7825 Baymeadows way, Suite B200, Jacksonville, Florida 32256-7577.
3. Appendices: The following Appendices are attached as an enforceable part of this permit:
 - Appendix A. Citation Formats;
 - Appendix B. General Conditions;
 - Appendix C. Standard Testing Requirements; and
 - Appendix D. Best Operational Startup Practices for Sulfuric Acid Plants.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to the applicable provisions of: Chapter 403, F.S.; Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.; and the applicable parts and subparts of Title 40, Code of Federal Regulations (CFR). Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a revised Title V permit **on or before December 31, 2013**. To apply for a Title V permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]
6. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
7. Annual Operating Report: The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Particulate-Only Emissions Units Controlled by Baghouses

This subsection addresses the following affected emissions units (EU) and emissions points (EP).

| EU No. | EP No. | Emissions Unit Description |
|--------|--------|---|
| 001 | | Phosphate rock grinder controlled by a baghouse |
| 004 | | X-Train Dical Process |
| | 02 | Dedust bin controlled by a baghouse |
| | 03 | Shipping area controlled by a baghouse |
| | 04 | Limestone silo controlled by a baghouse |
| | 05 | Reclaim bin controlled by a baghouse |
| | 06 | Material handling controlled by a baghouse |
| 042 | | DFP Feed Prep |
| | EP-01 | Rock bin controlled by a baghouse |
| | EP-02 | Miscellaneous activity controlled by a baghouse |
| | EP-03 | Lime silo controlled by a baghouse |
| | EP-04 | Lime bin controlled by a baghouse |
| | EP-06 | Soda ash Silo controlled by a baghouse |
| | EP-07 | Soda ash Bin controlled by a baghouse |
| 062 | | DFP Product Silos |
| | EP-14 | Product Sizing and Crushing Silos |
| | EP-16 | Silo A, silo B, silo C and shipping operations controlled by a baghouse |

Pursuant to Rule 62-296.340 (BART), F.A.C., the following standards represent the Best Available Retrofit Technology. These standards apply to each BART-eligible unit and are in addition, and supplement, all other applicable standards.

CONTROL EQUIPMENT AND METHODS

1. Baghouses: The baghouse control systems shall be operated and maintained to effectively control particulate matter from each of the emissions points identified above for the regulated emissions units. [Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]
2. Circumvention: The permittee shall not circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]

EMISSIONS LIMITING AND PERFORMANCE STANDARDS

3. Opacity Standard: Visible emissions from each baghouse exhaust shall not exceed 5% opacity as determined by EPA Method 9. [Rule 62-296.340 (BART), F.A.C.; and 40 CFR 60, Appendix A, Method 9]
4. Baghouse Design Specification: Bags/filters in each baghouse control system shall be selected based on a design outlet specification of 0.01 grains per actual cubic feet of exhaust. Compliance shall be demonstrated by maintaining the appropriate records. No stack testing is required. [Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. Particulate-Only Emissions Units Controlled by Baghouses

EMISSIONS PERFORMANCE TESTING

5. Compliance Tests: During each federal fiscal year (October 1st to September 30th), the permittee shall conduct visible emissions tests on each baghouse exhaust in accordance with EPA Method 9 to demonstrate compliance with the opacity standard. This method is described in 40 CFR 60, Appendix A, which is adopted by reference in Rule 62-204.800, F.A.C. Initial compliance tests shall be conducted during federal fiscal year 2012/2013 and a test report demonstrating compliance shall be submitted before October 1, 2013. [Rules 62-204.800, 62-296.340(3)(b)2 and 62-297.310(7)(a)4, F.A.C.; and 40 CFR 60, Appendix A, Method 9]
6. Test Requirements: The permittee shall comply with the applicable "Common Testing Requirements" specified in Appendix C of this permit, which include test notifications, sampling facilities, test procedures, test frequencies, test records and test reports. [Rule 62-297.310(7)(a)9, F.A.C.]

RECORDS

7. Baghouse Records: The permittee shall maintain records on site of the vendor data sheets that demonstrate compliance with the baghouse design outlet specification for the bags/filters. To demonstrate initial compliance, the permittee shall provide copies of such records with the corresponding visible emissions test report that demonstrates initial compliance with the opacity standard. [Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. Particulate-Only Emissions Units Controlled by Wet Scrubbers

This subsection addresses the following affected emissions units.

| EU No. | Emissions Unit Description |
|--------|--|
| 010 | No. 1 Storage/Shipping Building controlled by wet scrubber |
| 015 | MAP/DAP Shipping Facility controlled by cyclone and wet scrubber |
| 044 | 'A' and 'B' DFP Coolers controlled by cyclonic wet scrubber |
| 065 | Swift Creek Mine Silos and Conveyor controlled by wet scrubber |

Pursuant to Rule 62-296.340 (BART), F.A.C., the following standards represent the Best Available Retrofit Technology. These standards apply to each BART-eligible unit and are in addition, and supplement, all other applicable standards.

CONTROL EQUIPMENT AND METHODS

- Wet Scrubbers:** The wet scrubber controls shall be operated and maintained to effectively control particulate matter from each of the emissions points identified above for the regulated emissions units. [Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]
- Circumvention:** The permittee shall not circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]

EMISSIONS LIMITING AND PERFORMANCE STANDARDS

- PM Standards:** Particulate matter emissions shall not exceed the following emissions standards as determined by EPA Method 5.

| EU No. | Emissions Unit Description | BART Standard |
|--------|---------------------------------|---------------|
| 010 | No. 1 Storage/Shipping Building | 4.7 lb/hour |
| 015 | MAP/DAP Shipping Facility | 1.2 lb/hour |
| 044 | 'A' and 'B' DFP Coolers | 12.3 lb/hour |
| 065 | Swift Creek Mine Silos | 5.7 lb/hour |

[Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]

EMISSIONS COMPLIANCE TESTING

- Compliance Tests:** During each federal fiscal year (October 1st to September 30th), the permittee shall conduct tests on each wet scrubber exhaust in accordance with EPA Method 5 to demonstrate compliance with the PM standard. This method is described in 40 CFR 60, Appendix A, which is adopted by reference in Rule 62-204.800, F.A.C. Initial compliance tests shall be conducted during federal fiscal year 2012/2013 and a test report demonstrating compliance shall be submitted before October 1, 2013.

{Permitting Note: For the PM BART standard, it may be necessary to develop new excursion levels for the scrubber parameters if subject to a Compliance Assurance Monitoring (CAM) plan. This may require additional compliance testing.}

[Rules 62-204.800, 62-296.340(3)(b)2, and 62-297.310(7)(a)4, F.A.C.; and 40 CFR 60, Appendix A]

- Test Requirements:** The permittee shall comply with the applicable "Common Testing Requirements"

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. Particulate-Only Emissions Units Controlled by Wet Scrubbers

requirements specified in Appendix C of this permit, which include test notifications, test procedures, sampling facilities, test frequencies, test records and test reports. Parametric data recorded for the wet scrubber during each test shall be provided with the required test report. [Rule 62-297.310(7)(a)9, F.A.C.]

MONITORING

6. Wet Scrubber Parameters: For each wet scrubber, the permittee shall install, operate and maintain devices to continuously monitor the scrubber water flow rate, the pressure drop across the scrubber and the fan amperage. Such devices shall be calibrated, fully functional and in operation before conducting the initial compliance tests.
 - a. For each emissions unit subject to a CAM plan, the scrubber parameters shall be continuously monitored and recorded. For each operating hour, the 1-hour block average shall be computed from at least four data points evenly spaced over each operating hour. This data shall be to develop new excursion levels for the scrubber parameters in the CAM plan.
 - b. For each emissions unit that is not subject to a CAM plan, the scrubber parameters shall be continuously monitored and manually recorded at least once during each eight-hour block of operation. Alternatively, the parametric data may be continuously recorded. During each required compliance test, such data shall be recorded at 15-minute intervals.

[Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]

RECORDS

7. Wet Scrubber Records: The permittee shall maintain records on site of the scrubber water flow rate and the pressure drop across the scrubber. In addition, the following vendor design information shall be maintained on site for each wet scrubber: exhaust flow rate; scrubber water flow rate, scrubber pressure drop, dust inlet loading, dust outlet loading and control efficiency. [Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

C. Emissions Units with Combustion

This subsection addresses the following affected emissions units (EU).

| EU No. | Emission Unit Description |
|--------|-----------------------------|
| 003 | 'A' DFP Plant |
| 004 | X-Train (Dical Process) |
| 008 | 'Y' Train - #1 DAP Plant |
| 021 | 'C' SAP |
| 022 | 'D' SAP |
| 032 | 'Z' Train - #2 DAP Plant |
| 038 | 'B' DFP Plant |
| 042 | DFP Feed Prep |
| 064 | Swift Creek Mine Rock Dryer |

Pursuant to Rule 62-296.340 (BART), F.A.C., the following standards represent the Best Available Retrofit Technology. These standards apply to each BART-eligible unit and are in addition, and supplement, all other applicable standards.

CONTROL EQUIPMENT AND METHODS

- Wet Scrubbers:** The wet scrubber controls shall be operated and maintained to effectively control particulate matter from each of the emissions points identified above for the regulated emissions units. The wet scrubber controls on the 'A' and 'B' DFP Plants (EU-003 and EU-038) shall also be operated and maintained to effectively control sulfur dioxide. [Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]
- Circumvention:** The permittee shall not circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]
- Best Operational Startup Practices for Sulfuric Acid Plants (EU-021 and EU-022):** Sulfuric acid plants are authorized for excess emissions from startup for a period of three consecutive hours provided best operational practices to minimize emissions are adhered to in accordance with the agreement titled "Best Operational Startup Practices for Sulfuric Acid Plants" attached to this permit as Appendix D. [Rule 62-210.700, F.A.C., 40 CFR 60.7]
- General Best Operational Practices:** Best operational practices to minimize leaks of sulfur dioxide and sulfur trioxide, or other fugitive process emissions shall be adhered to and shall include regular inspections and prompt repair or correction of any leaks or other fugitive emissions. [Rule 62-296.320, F.A.C.]

EMISSIONS LIMITING AND PERFORMANCE STANDARDS

- PM and SO₂ Standards:** Particulate matter and sulfur dioxide emissions shall not exceed the following emissions standards as determined by EPA Methods 5 and 6/6C, respectively.

| EU No. | EP No. | Emissions Unit Description | BART Standards | |
|--------|--------|---|-----------------------------|-----------------|
| | | | PM | SO ₂ |
| 003 | | 'A' DFP Plant with PM and SO ₂ controlled by wet scrubbing | 10.1 lb/hour | 2.0 lb/hour, a |
| 004 | | X-Train Dical Process | | |
| | EP-01 | X-Train Rotary Dryer with PM controlled by wet scrubbing | 11.8 lb/hour (all modes) | b |

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

C. Emissions Units with Combustion

| EU No. | EP No. | Emissions Unit Description | BART Standards | |
|--------|---|--|--|-----------------------------------|
| | | | PM | SO ₂ |
| 008 | Y-Train No. 1 DAP Plant with PM controlled by wet scrubbing | | 0.18 lb/ton P ₂ O ₅ input 6.5 lb/hour (all modes) | b |
| | Y-Train No. 1 MAP Plant with PM controlled by wet scrubbing | | | |
| 021 | 'C' Sulfuric Acid Plant with double absorption process | | --- | 3.5 lb/ton AP, c 335.4 lb/hour |
| 022 | 'D' Sulfuric Acid Plant with double absorption process | | --- | 3.5 lb/ton AP, c 335.4 lb/hour |
| 032 | Z-Train No. 2 DAP/MAP Plant | | | |
| | EP-01 | Main part of DAP process with PM controlled by wet scrubbing | | 9.2 lb/hour d |
| 038 | 'B' DFP Plant with PM and SO ₂ controlled by wet scrubbing | | 10.1 lb/hour | 2.0 lb/hour, a |
| 042 | DFP Feed Prep | | | |
| | EP-05 | DFP Feed Prep Dryer with PM controlled by wet scrubber | | 4.5 lb/hour b |
| 064 | Swift Creek Mine (SCM) Rock Dryer with PM controlled by wet scrubber | | 17.3 lb/hour | e |

- a. In addition to the SO₂ emissions standard, sulfur dioxide emissions from these units shall be limited by firing natural gas as the only fuel.
- b. To control sulfur dioxide emissions, natural gas shall be fired as the primary fuel. If the vendor is unable to provide natural gas, fuel oil with a maximum sulfur content of 1.5% by weight may be fired as a backup fuel.
- c. Sulfur dioxide emissions from the "C" and "D" Sulfuric Acid Plants (EU-021 and EU-022) shall not exceed 3.5 lb/ton of 100% sulfuric acid produced (AP) based on a 24-hour rolling CEMS average. No stack testing is required.
- d. To control sulfur dioxide emissions, natural gas shall be fired as the primary fuel. If the vendor is unable to provide natural gas, fuel oil or on-specification used oil with a maximum sulfur content of 1.0% by weight may be fired as a backup fuel.
- e. To control sulfur dioxide emissions, natural gas shall be fired as the primary fuel. If the vendor is unable to provide natural gas, fuel oil with a maximum sulfur content of 1.3% by weight or on-specification used oil with a maximum sulfur content of 1.0% by weight may be fired as backup fuel.

[Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]

6. **Opacity Standards:** Visible emissions from the 'C' and 'D' Sulfuric Acid Plants (EU-021 and EU-022) shall not exceed 10% opacity as determined by EPA Method 9. Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. [Rule 62-296.340 (BART), F.A.C.; and 40 CFR 60.83(a)2 and 40 CFR 60, Appendix A, Method 9]
7. **NO_x Emissions Standards:** Nitrogen oxides emissions (expressed as NO₂) from the 'C' and 'D' Sulfuric Acid Plants (EU-021 and EU-022) shall not exceed 0.14 lb/ton of 100% sulfuric acid produced as determined by EPA Method 7E. Nitrogen oxides emissions from the remaining emissions units shall be controlled by the inherent combustion design of the existing units and the firing of natural gas as the primary fuel. [Rule 62-4.070(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

C. Emissions Units with Combustion

EMISSIONS COMPLIANCE TESTING

8. Compliance Tests: During each federal fiscal year (October 1st to September 30th), the permittee shall conduct the following compliance tests.
- The permittee shall conduct visible emissions tests on the 'C' and 'D' Sulfuric Acid Plants (EU-021 and EU-022) in accordance with EPA Method 9 to demonstrate compliance with the opacity standard.
 - The permittee shall conduct tests on each wet scrubber exhaust with a PM standard in accordance with EPA Method 5 to demonstrate compliance with the corresponding standard.
 - The permittee shall conduct tests on each wet scrubber exhaust with a SO₂ standard in accordance with EPA Method 6/6C to demonstrate compliance with the corresponding standard.
 - These methods are described in 40 CFR 60, Appendix A, which is adopted by reference in Rule 62-204.800, F.A.C.
 - Initial compliance tests shall be conducted during federal fiscal year 2012/2013 and a test report demonstrating compliance shall be submitted before October 1, 2013.

{Permitting Note: For the PM and SO₂ BART standards, it may be necessary to develop new excursion levels for the scrubber parameters if subject to a Compliance Assurance Monitoring (CAM) plan. This may require additional compliance testing.}

[Rules 62-204.800, 62-296.340(3)(b)2, and 62-297.310(7)(a)4, F.A.C.; and 40 CFR 60, Appendix A]

9. Test Requirements: The permittee shall comply with the applicable "Common Testing Requirements" requirements specified in Appendix C of this permit, which include test notifications, test procedures, sampling facilities, test frequencies, test records and test reports. Parametric data recorded for the wet scrubber during each test shall be provided with the required test report. As necessary, EPA Methods 1 – 4 shall be conducted to support the other test methods. [Rule 62-297.310(7)(a)9, F.A.C.]

MONITORING

10. Wet Scrubber Parameters: For each wet scrubber, the permittee shall install, operate and maintain devices to continuously monitor the scrubber water flow rate, the pressure drop across the scrubber and the fan amperage. Such devices shall be calibrated, fully functional and in operation before conducting the initial compliance tests. In addition, the permittee shall install, operate and maintain devices to continuously monitor the pH level of the caustic solution in the wet scrubbers for the 'A' and 'B' DFP Plants (EU-003 and EU-038).
- For each emissions unit subject to a CAM plan, the scrubber parameters shall be continuously monitored and recorded. For each operating hour, the 1-hour block average shall be computed from at least four data points evenly spaced over each operating hour. This data shall be to develop new excursion levels for the scrubber parameters in the CAM plan.
 - For each emissions unit that is not subject to a CAM plan, the scrubber parameters shall be continuously monitored and manually recorded at least once during each eight-hour block of operation. Alternatively, the parametric data may be continuously recorded. During each required compliance test, such data shall be recorded at 15-minute intervals.

[Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]

11. CEMS Compliance Demonstration: The permittee currently operates continuous emissions monitoring systems (CEMS) to determine SO₂ emissions from the "C" and "D" Sulfuric Acid Plants (EU-021 and EU-

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

C. Emissions Units with Combustion

022. The permittee shall operate and maintain each CEMS to demonstrate compliance with the BART SO₂ standards specified in this permit, which requires the data to also be reduced to 24-hour rolling averages. Each CEMS shall be certified to meet Performance Specification 2 in Appendix B of 40 CFR 60 and the quality assurance procedures specified in Appendix F of 40 CFR 60. [Rules 62-296.340 (BART) and 62-4.070(3), F.A.C.]

RECORDS

12. Wet Scrubber Records: The permittee shall maintain records on site of the scrubber water flow rate and the pressure drop across the scrubber. In addition, the following vendor design information shall be maintained on site for each wet scrubber: exhaust flow rate; scrubber water flow rate, scrubber pressure drop, dust inlet loading, dust outlet loading and control efficiency. [Rules 62-4.070(3) and 62-296.340 (BART), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

D. Molten Sulfur System for 'C' and 'D' Sulfuric Acid Plants

This subsection addresses the following affected emissions units.

| EU No. | Emissions Unit Description |
|--------|---|
| 054 | Molten Sulfur System for 'C' and 'D' sulfuric acid plants |

Pursuant to Rule 62-296.340 (BART), F.A.C., the following standards represent the Best Available Retrofit Technology. These standards apply to each BART-eligible unit and are in addition, and supplement, all other applicable standards.

EMISSIONS LIMITING AND PERFORMANCE STANDARDS

1. Molten Sulfur Facilities – Work Practice Standards: All molten sulfur facilities shall employ, as a minimum, the following practices to minimize the emission of sulfur particulate matter into the atmosphere.
 - a. All molten sulfur transfer shall be through enclosed piping systems where feasible and practical. In user facilities, molten sulfur may be transferred by covered trench or a movable spout which is positioned over a receiving pit. Contact surfaces between movable unloading arms and stationary pipes shall seat effectively around the entire circumference to minimize spillage.
 - b. All areas surrounding points where molten sulfur pipes are routinely disconnected and areas where molten sulfur is transferred to trucks or railcars shall be paved and curbed within 20 feet of the point of disconnection or transfer to contain any spilled molten sulfur, or shall be provided with non-corrodible drip pans or other secondary containment, positioned to collect spills, that are adequate to contain amounts of sulfur that may escape during routine disconnection, reconnection or operation of the piping system.
 - c. All spilled molten sulfur shall be collected and properly disposed of whenever the containment area is filled to one-half its containment capacity, or monthly, whichever is more frequent. Spills of molten sulfur outside of a containment area, or where subject to vehicular traffic, shall be collected and disposed of as soon as possible, but no later than 24 hours after the spill occurs. Drip pans or other secondary containment shall be cleaned as needed to prevent exceedance of capacity, but at least weekly.
 - d. All vent surfaces shall be cleaned monthly to remove captured particles.
 - e. All owners and operators of molten sulfur storage and handling facilities shall maintain records of spills outside of containment areas and of collection and disposal of spilled sulfur. Such records shall be retained for a minimum of two years and shall be available for inspection by the Department upon request.
 - f. Owners and operators shall establish and implement procedures to minimize spills from any movable loading arm or pipe upon disconnection, reconnection or operation.

[Rules 62-296.340 (BART) and 62-296.411, F.A.C.]

2. Opacity Standard: As determined by EPA Method 9, visible emissions from any emission point in the molten sulfur facility shall not exceed 20% opacity (6-minute average). [Rules 62-296.340 (BART) and 62-296.411, F.A.C.]

EMISSIONS PERFORMANCE TESTING

3. Compliance Tests: The permittee shall conduct visible emissions tests every 5 years (prior to operation permit renewal) in accordance with EPA Method 9 to demonstrate compliance with the opacity standard. This method is described in 40 CFR 60, Appendix A, which is adopted by reference in Rule 62-204.800,

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

D. Molten Sulfur System for 'C' and 'D' Sulfuric Acid Plants

F.A.C. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. [Rules 62-204.800, 62-296.340(3)(b)2 and 62-297.310(7)(a)4, F.A.C.; and 40 CFR 60, Appendix A, Method 9]

4. Test Requirements: The permittee shall comply with the applicable "Common Testing Requirements" specified in Appendix C of this permit, which include test notifications, sampling facilities, test procedures, test frequencies, test records and test reports. [Rule 62-297.310(7)(a)9, F.A.C.]

SECTION 4. APPENDICES

CONTENTS

Appendix A. Citation Formats

Appendix B. General Conditions

Appendix C. Standard Testing Requirements

Appendix D. Best Operational Start-Up Practices for Sulfuric Acid Plants

SECTION 4. APPENDIX A

CITATION FORMATS

The following examples illustrate the format used in the permit to identify applicable permitting actions and regulations.

REFERENCES TO PREVIOUS PERMITTING ACTIONS

Old Permit Numbers

Example: Permit No. AC50-123456 or Air Permit No. AO50-123456

Where: “AC” identifies the permit as an Air Construction Permit
“AO” identifies the permit as an Air Operation Permit
“123456” identifies the specific permit project number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AO, or 099-2222-001-AV

Where: “099” represents the specific county ID number in which the project is located
“2222” represents the specific facility ID number
“001” identifies the specific permit project
“AC” identifies the permit as an air construction permit
“AO” identifies the permit as a minor source air operation permit
“AV” identifies the permit as a Title V Major Source Air Operation Permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: “PSD” means issued pursuant to the Prevention of Significant Deterioration of Air Quality
“FL” means that the permit was issued by the State of Florida
“317” identifies the specific permit project

RULE CITATION FORMATS

Florida Administrative Code (F.A.C.)

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

SECTION 4. APPENDIX B
GENERAL CONDITIONS

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
 - a. Have access to and copy and records that must be kept under the conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.Reasonable time may depend on the nature of the concern being investigated.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of non-compliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

SECTION 4. APPENDIX B

GENERAL CONDITIONS

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (Not Applicable);
 - b. Determination of Prevention of Significant Deterioration (Not Applicable); and
 - c. Compliance with New Source Performance Standards (Not Applicable).
14. The permittee shall comply with the following:
 - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - 1) The date, exact place, and time of sampling or measurements;
 - 2) The person responsible for performing the sampling or measurements;
 - 3) The dates analyses were performed;
 - 4) The person responsible for performing the analyses;
 - 5) The analytical techniques or methods used; and
 - 6) The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SECTION 4. APPENDIX C
STANDARD TESTING REQUIREMENTS

Unless otherwise specified by permit, all emissions units that require testing are subject to the following conditions as applicable.

1. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]
2. Operating Rate During Testing: Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emissions unit operating at permitted capacity as defined below. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
 - a. *Combustion Turbines*. (Reserved)
 - b. *All Other Sources*. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit.[Rule 62-297.310(2), F.A.C.]
3. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
4. Applicable Test Procedures:
 - a. *Required Sampling Time*.
 - 1) Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
 - 2) *Opacity Compliance Tests*. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - a) For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation

SECTION 4. APPENDIX C
STANDARD TESTING REQUIREMENTS

shall be equal to the duration of the batch cycle or operation completion time.

- b) The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
- c) The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
- b. *Minimum Sample Volume.* Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
- c. *Required Flow Rate Range.* For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.
- d. *Calibration of Sampling Equipment.* Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.
- e. *Allowed Modification to EPA Method 5.* When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

| TABLE 297.310-1 CALIBRATION SCHEDULE | | | |
|--------------------------------------|---|---|--|
| Item | Minimum Frequency | Reference Instrument | Tolerance |
| Liquid in glass thermometer | Annually | ASTM Hg in glass ref. thermometer or equivalent or thermometric points | ± 2% |
| Bimetallic thermometer | Quarterly | Calib. liq. in glass | 5° F |
| Thermocouple | Annually | ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer | 5° F |
| Barometer | Monthly | Hg barometer or NOAA station | ± 1% scale |
| Pitot Tube | When required or when damaged | By construction or measurements in wind tunnel D greater than 16" and standard pitot tube | See EPA Method 2, Fig. 2-2 & 2-3 |
| Probe Nozzles | Before each test or when nicked, dented, or corroded | Micrometer | ± 0.001" mean of at least three readings; maximum deviation between readings, 0.004" |
| Dry Gas Meter and Orifice Meter | 1. Full Scale: When received, when 5% change observed, annually | Spirometer or calibrated wet test or dry gas test meter | 2% |
| | 2. One Point: Semiannually | | |
| | 3. Check after each test series | Comparison check | 5% |

[Rule 62-297.310(4), F.A.C.]

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5. Determination of Process Variables:

- a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

6. Required Stack Sampling Facilities: Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.

- a. *Permanent Test Facilities.* The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.
- b. *Temporary Test Facilities.* The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.
- c. *Sampling Ports.*
 - 1) All sampling ports shall have a minimum inside diameter of 3 inches.
 - 2) The ports shall be capable of being sealed when not in use.
 - 3) The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
 - 4) For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
 - 5) On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.

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d. *Work Platforms.*

- 1) Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
- 2) On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
- 3) On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
- 4) All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toeboard, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.

e. *Access to Work Platform.*

- 1) Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
- 2) Walkways over free-fall areas shall be equipped with safety rails and toeboards.

f. *Electrical Power.*

- 1) A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.
- 2) If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

g. *Sampling Equipment Support.*

- 1) A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.
 - a) The bracket shall be a standard 3 inch × 3 inch × one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.
 - b) A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.
 - c) The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
- 2) A complete monorail or dualrail arrangement may be substituted for the eyebolt and bracket.
- 3) When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

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7. Frequency of Compliance Tests: The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.
- a. General Compliance Testing.
- 1) The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.
 - 2) For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.
 - 3) The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to sub-subparagraph 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
 - a) Did not operate; or
 - b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours,
 - 4) During each federal fiscal year (October 1 – September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
 - a) Visible emissions, if there is an applicable standard;
 - b) Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
 - c) Each NESHAP pollutant, if there is an applicable emission standard.
 - 5) An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
 - 6) For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup.
 - 7) For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to paragraph 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup.
 - 8) Any combustion turbine that does not operate for more than 400 hours per year shall conduct a

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visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.

- 9) The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
 - 10) An annual compliance test conducted for visible emissions shall not be required for units exempted from air permitting pursuant to subsection 62-210.300(3), F.A.C.; units determined to be insignificant pursuant to subparagraph 62-213.300(2)(a)1., F.A.C., or paragraph 62-213.430(6)(b), F.A.C.; or units permitted under the General Permit provisions in paragraph 62-210.300(4)(a) or Rule 62-213.300, F.A.C., unless the general permit specifically requires such testing.
- b. Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.
8. Test Reports:
- a. The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.
 - b. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
 - c. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:
 - 1) The type, location, and designation of the emissions unit tested.
 - 2) The facility at which the emissions unit is located.
 - 3) The owner or operator of the emissions unit.
 - 4) The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 - 5) The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 - 6) The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 - 7) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 - 8) The date, starting time and duration of each sampling run.

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- 9) The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
- 10) The number of points sampled and configuration and location of the sampling plane.
- 11) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
- 12) The type, manufacturer and configuration of the sampling equipment used.
- 13) Data related to the required calibration of the test equipment.
- 14) Data on the identification, processing and weights of all filters used.
- 15) Data on the types and amounts of any chemical solutions used.
- 16) Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
- 17) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
- 18) All measured and calculated data required to be determined by each applicable test procedure for each run.
- 19) The detailed calculations for one run that relate the collected data to the calculated emission rate.
- 20) The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.
- 21) A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

9. Stack: The terms stack and duct are used interchangeably in this rule.

[Rule 62-297.310(9), F.A.C.]

SECTION 4. APPENDIX D

BEST OPERATIONAL START-UP PRACTICES FOR SULFURIC ACID PLANTS

1. Only one sulfuric acid plant at a facility should be started up and burning sulfur at a time. There are times when it will be acceptable for more than one sulfuric acid plant to be in the start-up mode at the same time, provided the following condition is met. It is not acceptable to initiate sulfur burning at one sulfuric acid plant when another plant at the same facility is emitting SO₂ at a rate in excess of the emission limits imposed by the permit or rule, as determined by the CEMs emission rates for the immediately preceding 20 minutes.
2. A plant start-up must be at the lowest practicable operating rate, not to exceed 70 percent of the designated operating rate, until the SO₂ monitor indicates compliance. Because production rate is difficult to measure during start-up, if a more appropriate indicator (such as blower pressure, furnace temperature, gas strength, blower speed, number of sulfur guns operating, etc.) can be documented, tested and validated, the Department will accept this in lieu of directly documenting of the suitable list of surrogate parameters to demonstrate and document the reduced operating rate on a plant-by-plant basis. Documentation that the plant is conducting start-up at the reduced rate is the responsibility of the owner or operator.
3. Sulfuric acid plants are authorized to emit excess emissions from start-up for a period of three consecutive hours provided best operational practices, in accordance with this agreement, to minimize emissions are followed. No plant shall be operated (with sulfur as fuel) out of compliance for more than three consecutive hours. Thereafter, the plant shall be shut down (cease burning sulfur) if, as indicated by the continuous emission monitoring system, the plant is not in compliance within three hours of startup. Restart may occur as soon as practicable following any needed repairs or adjustments, provided the corrective action is taken and properly documented.
4. Cold Start-Up Procedures.
 - a. Converter.
 - (1) The inlet and outlet temperature at the first two masses of catalyst shall be sufficiently high to provide immediate ignition when SO₂ enters the masses. In no event shall the inlet temperature to the first mass be less than 800°F or the outlet temperature to the first two masses be less than 700°F. These temperatures are the desired temperatures at the time the use of auxiliary fuel is terminated.
 - (2) The gas stream entering the converter shall contain SO₂ at a level less than normal and sufficiently low to promote catalytic conversion to SO₃.
 - b. Absorbing Towers.

The concentration, temperature and flow of circulating acid shall be as near to normal conditions as reasonably can be achieved. In no event shall the concentration be less than 96 percent H₂SO₄.
5. Warm Restart.
 - a. Converter

The inlet and outlet temperatures of the first two catalyst masses should be sufficiently high to ensure conversion. One of the following three conditions must be met:

 - (1) The first two catalyst masses inlet and outlet temperatures must be at a minimum of 700°F; or
 - (2) Two of the four inlet and outlet temperatures must be greater than or equal to 800°F; or

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- (3) The inlet temperature of the first catalyst must be greater than or equal to 600°F and the outlet temperature greater than or equal to 800°F. Also, the inlet and outlet temperatures of the second catalyst must be greater than or equal to 700°F.

Failure to meet one of the above conditions requires use of cold start-up procedures.

To allow for technologies improvements or individual plant conditions, alternative conditions will be considered by the Department in appropriate cases.

b. Absorbing Towers.

The concentration, temperature and flow of circulating acid shall be as near to normal conditions as reasonably can be achieved. In no event shall the concentration be less than 96 percent H₂SO₄.